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Wisconsin State Assembly
Special Committee on Clean Energy Jobs
412 East
Representative Spencer Black, Co-Chair
Representative James Soletski, Co-Chair
RE: Assembly Bill No. 649 (LRB-4076)

February 15, 2010

Dear Honorable Committee Members:

My name is Brian Antonich and I have been working for Horizon Wind Energy as a project developer for over one year and have been working in the wind industry for various capacities for over 5 years. I am an electrical engineer by training. Horizon Wind Energy is based in Houston, Texas, with over 20 offices and 22 operating wind farms across the United States totaling more than 2,800 MW in generating capacity. Horizon is owned by EDP Renewables ("EDPR"), a global leader in the renewable energy sector that designs, develops, manages and operates power plants that generate electricity using renewable energy sources. With a sound development pipeline, first class assets and market-leading operating capacity, EDPR has undergone exceptional development in recent years.

Horizon Wind Energy, formerly Zilkha Renewable Energy, began developing relationships with landowners and studying the wind in Lafayette County in 2003. After several years of recording wind data, the company realized that the project area was one of the windiest in Wisconsin. We have received overwhelming support from the county and township and have entered into development agreements with them authorizing us to build the wind farm. Succeeding interconnection, wildlife, wetland, civil engineering and other studies have confirmed that the site looks very favorable. Subsequently, Horizon's development team has brought the project to 90% construction ready. Finding a buyer for the energy is one of the few hurdles that need to be overcome to build the project.

Horizon Wind Energy has presented this very competitive project to Wisconsin utilities several times over the years with no success. Our company believes that if the Wisconsin Renewable Electricity Standard is increased to 25% by 2025 with a 10% carve out for Wisconsin-sited renewable energy projects that our company will find a buyer for the energy and the project will be built.

Some of the benefits from the project:

- \$225 to \$250 Million in infrastructure investment in Lafayette County
- Approximately \$400,000 annually in combined tax payments to Lafayette County and Seymour Township through the gross revenue tax mechanism
- ~100 participating landowners who will receive in aggregate around \$500,000 per year for participating in the project by hosting turbines and other infrastructure, or as neighbors to the project
- Construction of a new operations building the local community
- Several hundred short term construction jobs
- 7-10 highly skilled, long term, and well paying operations and maintenance jobs



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Scott D. Anderson,
Executive Director

Wisconsin Council of Churches

750 Windsor Street, Suite 301 Sun Prairie, WI 53590-2149
Ph 608.837.3108 Fax 608.837.3038 E-mail wcoc@wichurches.org

TO: Assembly Select Committee on Clean Energy
FROM: Peter Bakken, Coordinator for Public Policy
Wisconsin Council of Churches
RE: Clean Energy Jobs Act AB 649
DATE: February 11, 2010

My Name is Peter Bakken. I'm the Public Policy Coordinator for the Wisconsin Council of Churches, an association of thirteen Protestant and Christian Orthodox denominations in Wisconsin, including the Evangelical Lutheran Church in America, the United Methodist Church, the Presbyterian Church (USA), the United Church of Christ, and the Episcopal Church. Together, we comprise some 3000 congregations and almost a million members, and reach every corner of this state.

I am here to speak in support of the Clean Energy Jobs Act.

Across Wisconsin, churches and other faith communities have taken measures to reduce their use of fossil fuels by conserving energy, installing energy-efficient equipment, and adopting clean renewable energy sources.

Three Wisconsin churches have received EPA's Energy Star Congregations Awards for their achievements in energy conservation – Saint Andrews Lutheran church in Wausau, St. Therese Catholic Church in Appleton, and Madison Christian Community. Many more Wisconsin congregations have been featured in local and church media: First Presbyterian Church (Marshfield), First Unitarian Society (Madison), Christ the Servant Lutheran Church (Waukesha), Saints Peter and Paul Catholic Church in Green Bay, Saint Matthew Lutheran Church (Wauwatosa), Unitarian Universalist Church West (Brookfield), Lake Park Lutheran Church (Milwaukee), and Unity Lutheran Church (Milwaukee) – to name only a few.

They have done so for reasons that are highly relevant to the legislation we are discussing here today.

One reason is simply to exercise good stewardship by saving money. Congregations like businesses, households, and governments have finite budgets, and better things to spend money on than energy bills. These congregations have recognized that a short-term investment to reduce energy consumption yields long term returns that will enable them to better minister to their members and serve their neighbors in need.

*We pray and work together for the unity and renewal
of the church and the healing and reconciliation of the world*

In the same way, the Clean Energy Jobs bill can benefit the individuals, businesses, and communities of Wisconsin by promoting conservation and energy efficiency, ultimately lowering overall energy costs and reducing the amount of money we send out of state by importing coal and oil to meet our energy needs.

A deeper motivation for these communities of faith, however, is to help secure a cleaner, healthier, and more just world for present and future generations. Our reliance on fossil fuels threatens the health of our most vulnerable neighbors today: neurological damage from mercury released into the atmosphere by the burning of coal; asthma from air pollutants; water poisoned by coal mining waste from mountaintop removal in Appalachia; toxic wastelands from the exploitation of Canadian oil sands; and so on. These are real and present costs that are not accounted for by our current system of energy pricing.

Further, it is clear that the projected consequences of climate change will fall most heavily on the poorest of the global poor, who have done the least to create the problem and who lack the resources to adapt to increases in drought, flooding, heat waves, sea level rise, and infectious diseases.

In short, these communities of faith have taken steps to reduce their energy consumption because it is the right thing to do – not only for the sake of maintaining the beauty, stability, and integrity of the creation, but also as a matter of justice for the least powerful and prosperous of our brothers and sisters.

The Clean Energy Jobs bill provides an opportunity for promoting justice as well as health here at home, provided we take steps to enable low-income people in Wisconsin to share in the economic benefits of a new clean energy economy. We therefore support the concerns of the Wisconsin Community Action Program Association that the final bill include measures to restore and protect the utility public benefits fund, and to help make new alternative energy and energy efficiency jobs pathways out of poverty.

Actions by a single congregation to employ renewable energy sources or conserve energy may not seem to amount to much, but this brings us to a final reason why people of faith have found it worthwhile to do so. As congregations – and households, communities, and even states – step forward to take constructive action, they set in motion the beneficial social contagion of exemplary leadership.

Exemplary leadership informs the imagination by showing that a better way is possible, that we have gifts of creativity and innovation that can leave a better world and a better way of life for our children and future generations.

Exemplary leadership removes the excuse of those who insist on waiting until others have taken the first step, by taking that step oneself. It recognizes that the actions of a single congregation, or state, are not taken in a vacuum. They are not sufficient in themselves, but they are part of a larger process of change. In taking responsibility for our own impact on the world, however limited, we influence the actions and perceptions of others.

The Clean Energy Jobs Act will demonstrate Wisconsin's determination to exercise exemplary leadership and the commitment of American citizens to take constructive action to solve our economic and environmental problems. We therefore respectfully urge this committee to recommend passage of

AB 699

Thank you for your time and your attention.



Procorp was founded in 1987 to provide superior, cost-effective methods of wastewater management to industries with high strength wastes. Procorp built its reputation by developing flexible, reliable and innovative treatment systems that fully comply with regulatory discharge standards. Treatment process designs are based on a thorough understanding of the processing plants that generate wastewaters and how these factory operations impact treatment requirements.

Today, Procorp provides sustainable water and wastewater treatment solutions to a number of industries including: food and beverage producers, dairy processors, meat processor, and municipalities.

Wastewater is typically seen as an annoying expense that is not the core focus of their business, but must be dealt with. It is regulated both on the influent and effluent end of the pipe and those ever stricter regulations are costing companies money. Additionally, corporations and end users are increasingly aware of the impact their purchases have on the environment and are beginning to demand that producers take responsibility and protect the environment.

Anaerobic digestion with energy recovery has become an increasingly popular and accepted method of dealing high strength wastewaters generated by the industries noted above. However, this type of treatment requires a significant capital investment that is not feasible for many of these companies. It is through grants, incentives and reasonable buy-back rates that these processes are being implemented. The buy-back programs are over loaded with demand, therefore are unreliable in helping clients to calculate the cost payback of a renewable energy biomass system.

This legislation will put into place the incentives necessary to allow businesses to make the right choices. The implementation of these systems will mean jobs and revenue growth, not just for Procorp, but for our clients who are implementing them and our vendors and sub contractors who supply parts and services.

Assembly
PUBLIC HEARING
Special Committee on Clean Energy Jobs

The committee will hold a public hearing on the following items at the time specified below:

Monday, February 15, 2010

10:00 AM

412 East

Assembly Bill 649

In addressing the goals of Assembly Bill 469(set forth below), I request the Committee's consideration of "Unglazed Solar Air Collectors (such as the SolarWall®) in addressing the various targets of the Bill. Specific benefits of Unglazed Solar Air Collectors as they relate to the various targets of the Bill (highlighted in YELLOW) are enumerated within the text of the Bill (below) and referenced in the accompanying hand-out.

Relating to: goals for reductions in greenhouse gas emissions (GHG).

See the C. D. Howe Research Report (bookmarked w/YELLOW tab) which illustrates the economic benefits of this technology in mitigating GHG emissions relative to some of the more popular renewable energy technologies.

for construction of zero net energy buildings and for energy conservation; information, analyses, reports, education, and training concerning greenhouse gas emissions

This technology affords the potential for 6 points toward Leadership in Environmental Engineering & Design (LEED) Certification (see RED tabbed bookmark).

and climate change; energy efficiency and renewable resource programs; renewable energy requirements of electric utilities and retail cooperatives; requiring electric utilities to purchase renewable energy from certain renewable facilities in their service territories; authority of the Public Service Commission over nuclear power plants; motor vehicle emission limitations; a low carbon standard for transportation fuels; the brownfield site assessment grant program, the main street program, the brownfields grant program, the forward innovation fund, grants to local governments for planning activities, the transportation facilities economic assistance and development program, a model parking ordinance; surface transportation planning by the Department of Transportation and metropolitan planning organizations to reduce greenhouse gas emissions; environmental evaluations for transportation projects; idling limits for certain vehicles; energy conservation codes for public buildings, places of employment, one- and two-family dwellings, and agricultural facilities; design standards for state buildings; energy efficiency standards for certain consumer audio and video devices, boiler inspection requirements; greenhouse gas emissions and energy use by certain state agencies and state assistance to school districts in achieving energy efficiencies;

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Apart from the current FOCUS ON ENERGY grant for qualifying candidates within the WPS utilities service area (see section tabbed in BLUE) , the committee should encourage/fund FOCUS to expand this grant program statewide

creating an exception to local levy limits for amounts spent on energy efficiency measures; creating an energy crop reserve program; identification of private forest land, promoting sequestration of carbon in forests, qualifying practices and cost-share requirements under the forest grant program established by the Department of Natural Resources; air pollution permits for certain stationary sources reducing greenhouse gas emissions; allocating a portion of existing tax-exempt industrial development revenue bonding to clean energy manufacturing facilities and renewable power generating facilities; requiring a report on certain programs to limit greenhouse gas emissions; granting rule-making authority; requiring the exercise of rule-making authority; and providing a penalty.

By Representatives Black and Soletski; cosponsored by Senators Miller and Plale, by request of Governor James E. Doyle.

Testimony for Elizabeth Day in support of Wisconsin's Clean Energy Jobs Act

My name is Elizabeth Day, 6429 Maywood Ave, Middleton, Wisconsin.

I am in support of legislation that creates opportunities to develop more clean energy jobs in Wisconsin. As an owner of Natural Resources Consulting, Inc., a 12 year old Wisconsin firm based in Cottage Grove, I have seen tangible benefits of renewable energy development in our state, as measured by our workforce growth and increased market share over the last 6 years, during which time NRC has worked on 20 wind energy projects in our State. NRC is also an active member of The New North initiative as well as a supporter of RENEW Wisconsin. Passage of pending legislation establishing Advanced Renewable Tariffs and expanding the Renewable Portfolio Standard to 25% by 2025, combined with effective standardization of the permitting process that is currently underway, will substantially improve the climate for clean energy-related jobs creation in Wisconsin.

With the exception of last year when credit was tight, since 2006 we have seen a steady increase in development of Wisconsin's wind resources by utilities as well as developers from Wisconsin and out of State, as far away as Texas and California. As a result we have grown our wind services business, which has enabled us to retain good employees during depressed economic times. Just within our small business alone, we have added almost 30 jobs since 2006 – almost doubling the size of our workforce, and have opened offices in other regions of the State as well as Iowa and Colorado. In the last two months alone, we have filled an additional 5 and a half positions in Wisconsin, all of which will be working on renewable energy or renewable energy delivery projects.

Many of our staff are scientists educated at the University of Wisconsin system. We provide excellent full-time jobs with very good salary and benefit packages. Continued development of clean energy in Wisconsin will allow our company to continue to contribute to the future growth of renewable-related job opportunities in Wisconsin.

END

**Assembly Hearing on AB 649
Clean Energy Jobs
Testimony of Glen R. Schwalbach, P.E.
February 15, 2010**

My name is Glen R. Schwalbach. I am a Professional Engineer licensed in the State of Wisconsin. I can lose my license if I don't practice engineering ethically. It also means I must draw conclusions from the best technical and scientific research available and not succumb to any political motivations. I mention this so you know my comments will be made in this context. I retired from a utility after 38 years and have been in the energy consulting business for the past four years. My comments herein are only my own.

AB 649 and SB 450 are huge bills. Probably they're too big to succeed but definitely big enough to have very negative affects upon Wisconsin's economy and environment.

It is always proper to conserve energy and protect the environment in the best cost-benefit manner. But, in the past, we have many examples of legislation with good intentions ignoring good engineering. The natural gas shortages of the 1970's resulted in legislation for vent dampers on furnaces and boilers against the advice of heating equipment design engineers and testing labs. The results were injuries and deaths from carbon monoxide poisonings some of which I had to investigate. Current mandated efficiency requirements for refrigerators have resulted in appliances with life spans that are one-fourth of ones built thirty years ago. Has anyone considered the waste of energy to have to manufacture four times as many refrigerators per household since government efficiency mandates? There are dozens of such examples.

Just as we don't hear the refrigerator manufacturers complain about government-mandated obsolescence, utilities in general have found it too difficult to fight the political winds. They seem to rationalize that, if the legislature or the Public Service Commission mandates wasteful policy and expenditures, they, the utilities, have nothing to gain in fighting it. And, for some with more focus on shareholders than customers, the added rate base means more earnings. I have heard that at least one state utility has a gag order on its employees, which includes their engineers, to stick to the company's official political positions. I assume that means they can't talk about how expensive renewables really are and how more of them will affect service reliability.

The biggest problem with this bill is that its basic premise is flawed. Many of its provisions resulted from the work of the Governor's Task Force on Global Warming--a task force which was instructed to not question the premise that the earth was warming and that it was due to greenhouse gases such as carbon dioxide. Some members were uncomfortable with that but again they saw no benefit to fight the government's instruction. Thus, the work product is not credible.

The premise of man-made warming stems from the United Nations-sponsored Intergovernmental Panel on Climate Change (IPCC). But consider these facts as follows:

- In a report to the U.S. Senate in December 2007, about four hundred scientists and climatologists each testified that they did not agree with the IPCC and those who were on the IPCC had their research papers or other reports ignored. In an update report in December 2008, about 600 of such experts reconfirmed that position.
- The work of the Nongovernmental International Panel on Climate Change (NIPCC) is significant to study and consider. This panel was formed in 2007 by scientists and climate experts, who have a conscience, when it was observed that the initial drafts of the reports from the IPCC had errors and outright falsehoods. The members of the NIPCC have no financial or political self-interest as the IPCC has proven to have. They studied the IPCC methodology and conclusions and reported the results in their report entitled "Nature, Not Human Activity, Rules the Climate", published in April 2008. Their findings were that the IPCC conclusion that the reported warming is very likely caused by the human emission

THE
JOURNAL
OF THE
ROYAL ANTHROPOLOGICAL INSTITUTE

THE JOURNAL OF THE ROYAL ANTHROPOLOGICAL INSTITUTE, VOL. LXXV, PART 1, 1945. The volume contains a series of papers on various subjects, including the history of anthropology, the study of human evolution, and the social organization of primitive societies. The papers are written by leading anthropologists of the time, and they provide a comprehensive overview of the field.

The first paper, by A. H. Huxley, is a review of the state of anthropology in 1945. He discusses the progress of the field since the First World War, and he points out the areas in which further research is needed.

The second paper, by J. H. Huxley, is a study of the evolution of the human brain. He examines the evidence from comparative anatomy and from the study of fossilized brains, and he concludes that the human brain has evolved from a common ancestor with the apes.

The third paper, by J. H. Huxley, is a study of the social organization of primitive societies. He examines the evidence from ethnography and from the study of the social organization of animals, and he concludes that the social organization of primitive societies is based on kinship.

The fourth paper, by J. H. Huxley, is a study of the evolution of the human mind. He examines the evidence from comparative psychology and from the study of the evolution of the human brain, and he concludes that the human mind has evolved from a common ancestor with the apes.

The fifth paper, by J. H. Huxley, is a study of the evolution of the human language. He examines the evidence from comparative linguistics and from the study of the evolution of the human brain, and he concludes that the human language has evolved from a common ancestor with the apes.

The sixth paper, by J. H. Huxley, is a study of the evolution of the human culture. He examines the evidence from comparative ethnology and from the study of the evolution of the human mind, and he concludes that the human culture has evolved from a common ancestor with the apes.

The seventh paper, by J. H. Huxley, is a study of the evolution of the human society. He examines the evidence from comparative sociology and from the study of the evolution of the human mind, and he concludes that the human society has evolved from a common ancestor with the apes.

of greenhouse gases is false. "In other words", they said, "increasing carbon dioxide is not responsible for current warming. Policies adopted and called for in the name of 'fighting global warming' are unnecessary." They continued "It is an embarrassment to science that hype has replaced reason in the global debate over so important an issue."

- A significant study is a report entitled "Is the U.S. Temperature Record Reliable?". This study, which was reported in 2009, is an audit of 860 climate-monitoring stations of the National Weather Service. Eighty-nine percent of the stations failed to meet the siting requirements and were reading higher than actual temperatures because of artificial heating or radiating/reflecting heat sources nearby.
- A report entitled "Environmental Effects of Increased Atmospheric Carbon Dioxide" published in the Journal of American Physicians and Surgeons in 2007 concluded earth temperature changes, up and down, correlate to solar activity and not to any change in greenhouse gases. It states there is no reason to limit human production of carbon dioxide and such other minor greenhouse gases.
- Many reports of warming which use satellite readings of earth surface temperatures did not know or acknowledge that NASA made an adjustment to their computer algorithm to cause satellite temperature recorders to give higher readings to correlate to the actual temperatures taken at ground level. These reports often mistakenly point to the jump in earth temperature readings as proof that the situation is getting critical.

Many more studies debunking the certainty of man-made climate change and its effects are available and are proving to be more credible than those of the IPCC and others supported by certain governments around the world. Much of this bill would result in billions of wasted dollars. Some day when the mistake is realized, it will be no comfort that the federal government or other states may have taken the same path. For a similar reason, the provision in this bill to adopt California environmental standards seems to defy the common sense of lessons learned.

The levels for increased renewables in utility portfolios are unreasonable and very expensive. Just the basic fact that a utility can add most renewable generation to its portfolio only when it already has adequate or surplus generation should make it obvious that most renewables are not cost-effective for the grid. This doesn't even include such hidden costs as utility dispatching complexities and land devaluations.

A few parts of this bill have potential for positive results. The re-awakening to the benefits of nuclear energy is essential. By the way, new technology shows a real advantage is coming for any owners of spent fuel. The spent fuel will become a source for new energy production.

Many energy conservation incentives are not as effective as designed, i.e. junking old refrigerators for ones with much less life spans. But if incentives are mandated, these incentives should include oil and propane users as drafted in the bill. All incentives should be based upon life cycle cost-benefit studies.

In conclusion, this bill should be focus on opening the door to nuclear plant development and some energy conservation incentives. To help ensure real benefits where technology is involved, the bill should require analysis by licensed Professional Engineers with expertise in the subject area. They are accountable to put the public's health and welfare ahead of their own benefit.

One last comment—I heard Dixie Lee Ray, who at the time was head of the Atomic Energy Commission, respond to a question as to why we don't use more wind or solar instead of nuclear energy. She asked if you have a load of grain to move would you hook up a team of two horses in a harness that you can control and get to pull together in the right direction or would you attempt to harness billions of fleas and hope you can control them to move your load in the direction that you need to go. She said that is the difference between nuclear and wind or solar.

I'm Ray Davy and I'm President of Agri-Waste Energy. Agri-Waste Energy is the developer of a project in St. Croix County, The **Western Wisconsin Renewable Natural Gas Dairy Basin Project**. Phase I of the project was started in 2004. We are now in Phase II of the project. For a project overview you may go to our website www.agriwasteenergy.com, select Current Projects, then WWP overview.

Briefly, our project involves the construction of digesters on two large dairies, the construction of a gathering pipeline to bring raw biogas to a processing facility where the biogas will be processed, or "cleaned", to pipeline specifications, and injected into an interstate pipeline. The "cleaned biogas", or Renewable Natural Gas (RNG), can be delivered by pipeline to an electric utility that wishes to use it for electricity generation as part of a Renewable Portfolio Standard requirement. Attached is a St. Croix County map showing the location of the dairies, gathering pipeline, and interconnect to the Northern Natural Gas interstate pipeline system.

The Enhanced Renewable Portfolio Standards (E-RPS) provisions of the Clean Energy Jobs Act are very important to RNG projects like ours in St. Croix County, as well as to potential projects in rural communities throughout Wisconsin.

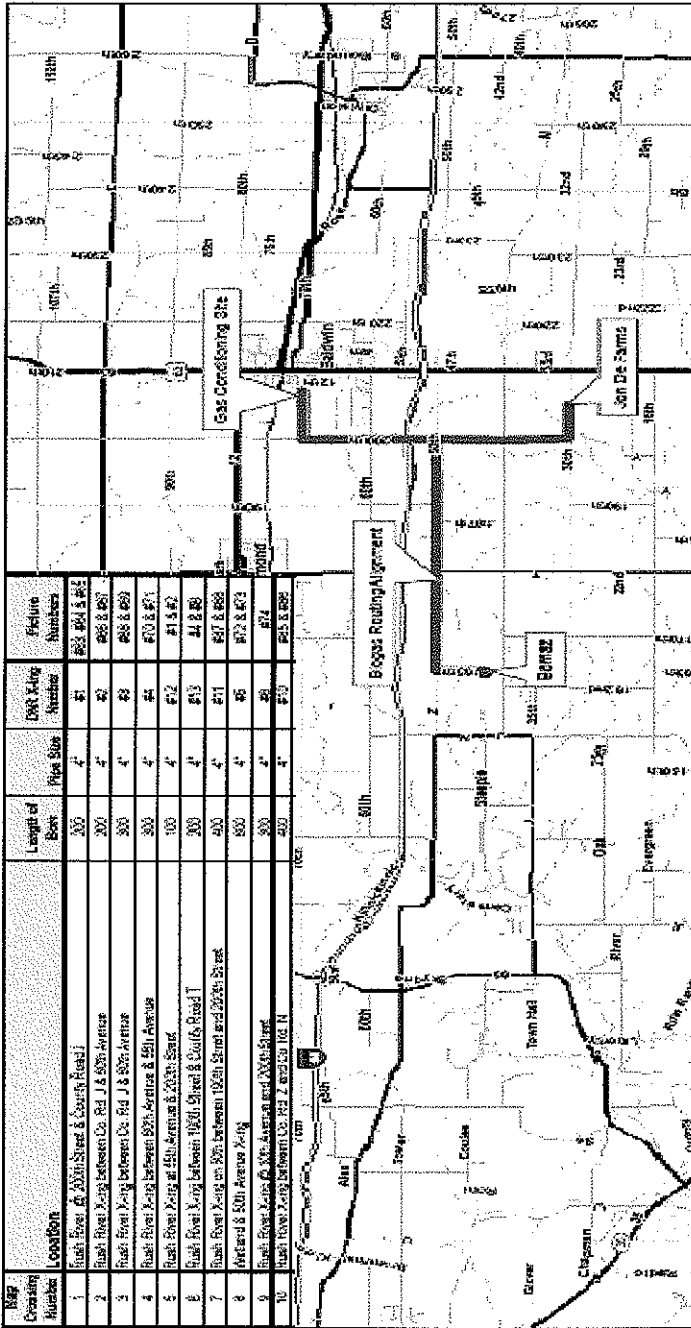
While our project utilizes dairy waste from two large dairies, it has the potential to add dairy waste from smaller dairies along the pipeline route. The Village of Baldwin wastewater treatment plant is also on the pipeline route and could be a potential biogas source. And, the project will use waste streams from local cheese factories as a "co-digestion" material.

This Business Model or "Biogas Basin Concept" can be used as an economic development and jobs creation tool for rural Wisconsin communities. As shown on the attached handout, this business model incorporates waste streams from agricultural sources, municipal waste facilities, landfills, and food processing plants. It's important to emphasize that the "Biogas Basin Concept" makes it feasible for smaller (100 cow) dairies to have a digester and hook into the biogas pipeline.

By creating an expanding market for Renewable Natural Gas, the Clean Energy Jobs Act can lead to the use of existing waste streams to provide more renewable fuel sources for Wisconsin's utilities while also creating jobs in rural Wisconsin.

BALDWIN, WISCONSIN

Map Creating Number	Location	Length of Bore	Pipe Size	2007 Rating Number	Failure Numbers
1	South River Rd. 200th Street to 240th Street	200	4"	#1	#23, #24, #45, #46
2	South River Road between Co. Rd. J & 200th Avenue	200	4"	#2	#25 & #26
3	South River Road between Co. Rd. J & 200th Avenue	300	4"	#3	#28 & #29
4	South River Road between 200th Avenue & 240th Avenue	300	4"	#4	#30 & #31
5	South River Road at 240th Avenue to 220th Street	100	4"	#5,2	#1 & #2
6	South River Road between 240th Street & County Road T	200	4"	#6,3	#4 & #3
7	South River Road on 200th Street and 220th Street	400	4"	#11	#32 & #33
8	Westland & 200th Avenue Road	800	4"	#5	#37 & #38
9	South River Road on 200th Avenue and 240th Street	300	4"	#6	#39
10	South River Road between Co. Rd. J & 200th Avenue	200	4"	#7	#40 & #41



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C4 - City Plan and Details

C1 - Bibliography to Section 1:

C4 - 48th Ave to 50th Ave

C5 - 50th Ave to 52nd Ave

C6 - 52nd Ave to 54th Ave

C7 - 54th Ave to 56th Ave

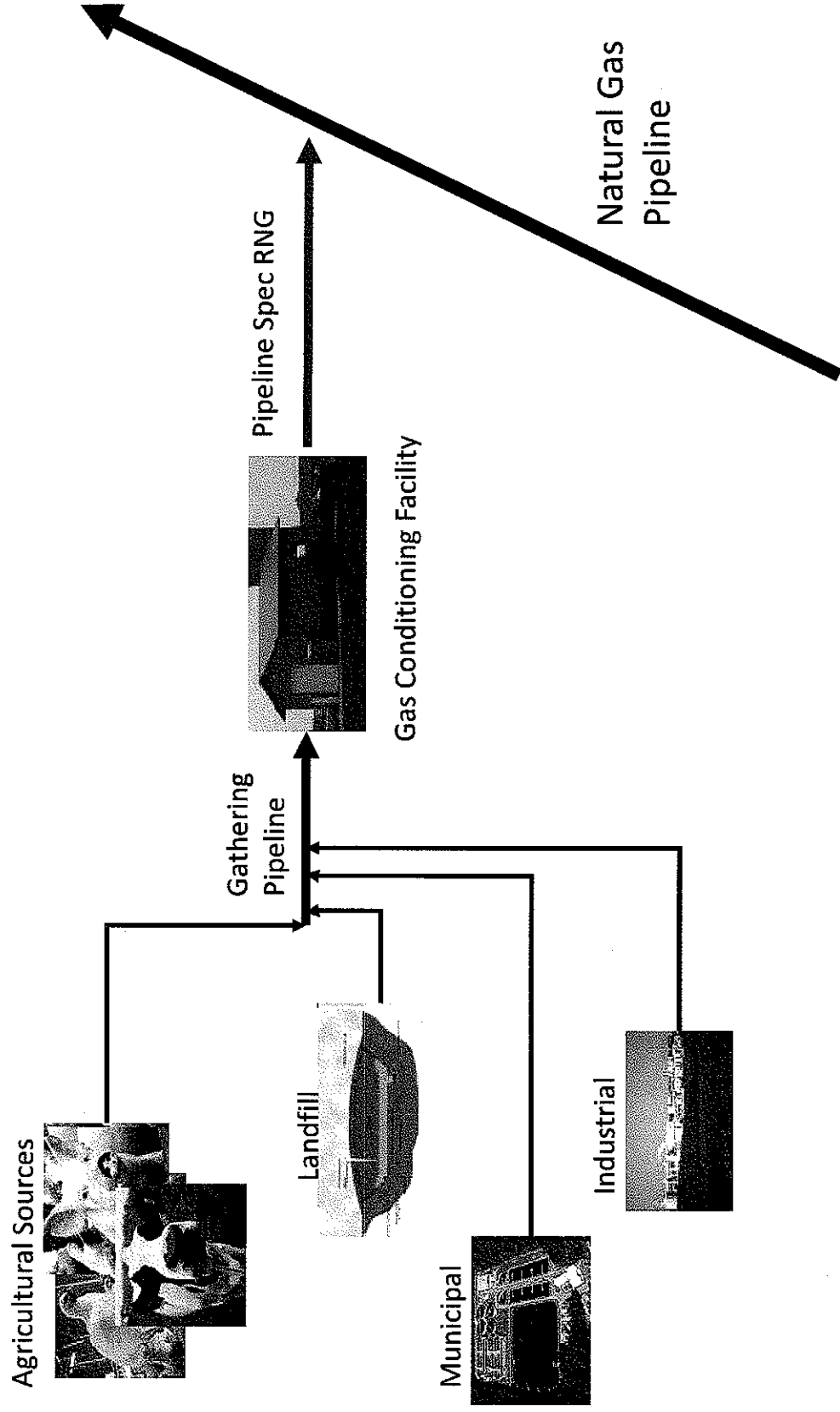
C8 - 56th Ave to 58th Ave

C9 - 58th Ave to 60th Ave

C10 - 60th Ave to 62nd Ave

C11 - 62nd Ave to 64th Ave

Biogas Basin Concept



Incentives for Renewable Bio-gas Production are Important for Wisconsin and the Nation

- **Renewable Domestic Energy:** Wisconsin has the resources (woody bio-mass, crop residues, landfills, livestock manure, etc.) to produce 51 billion cubic feet per year of renewable gas. Annual bio-gas production could potentially heat and provide hot water for 630,370 Wisconsin homes per year.
- **Additional Revenue Source:** Renewable bio-gas has the potential to produce \$366,244,964 in sales annually for Wisconsin businesses.
- **A Cleaner Environment:** Renewable bio-gas would provide CO₂ reductions of 3 million tons per year which is equivalent to taking 594,966 gasoline-powered light-duty vehicles off the road.
- **Job Creation:** 14,747 jobs for Wisconsin

Types of Resources to Produce Renewable Bio-gas	Annual Bio-gas Production when 50% Market Penetration is Achieved (Bcf)	CO ₂ Emission Reductions (total tonnes avoided)
Crop Residues/Non-Food Energy Crops	25.66	1,405,677
Landfills	6.35	347,562
Wood and Wood Wastes	18.36	1,005,855
Livestock Manure	0.43	223,176
Total	50.80 *	2,982,270 **

* Heating and hot water for 630,370 Wisconsin homes per year @ 83 MMBtu/year

* \$ value in sales annually at \$7.00 per MMBtu = \$366,244,964

** CO₂ savings equivalent to 594,966 gasoline-powered light-duty vehicles per year off the road (@ 5 tonnes of CO₂ per vehicle per year)

** \$ Value of CO₂ reductions annually at \$15.00 per tonne = \$44,734,043

** CO₂ reductions are due to natural gas combustion avoided (all sources) and for livestock manure only, methane emissions avoided

Sources

- (1) Milbrandt, A., "A Geographic Perspective on the Current Biogas Resource Availability in the United State," NREL/TP-560-39181, December 2005, Table 10.
- (2) GTI analysis
- (3) A.G.A. Gas Facts, 2007 Data, Table 6-14
- (4) Argonne National Laboratories, "A Full Fuel-Cycle Analysis of Energy and Emission Impacts of Transportation Fuels Produced from Natural Gas," ANL/ESD-40, December, 1999, Table A-1.1
- (5) Socioeconomic Drivers in Implementing Bio-Energy Projects, Domas et al, Science Direct, 28 (2005) 97-106
- (6) Renewable Energy and Jobs, Environmental California Research and Policy Center, July 2003
- (7) <http://www.biofuelassessment.dtu.dk/upload/uafhængige%20centre/biofuelassessment/fritsche.pdf>
- (8) De La Torre Ugarte, D. G., et al. (2003). The Economic Impacts of Bioenergy Crop Production on U.S. Agriculture, U.S. Department of Agriculture and Department of Energy, Agricultural Economic Report No. 816
- (9) Renewable Energy Policy Report, "the Work that Goes into Renewable Energy," No. 13, November, 2001, p. 3
- (10) http://www.greenjobs.com/Public/info/industry_background.aspx?id=13
- (11) http://www.reddi.gov.on.ca/guide_ecimpactassessment.htm#3.3.1, multiplier is direct + indirect + induced

GAS TECHNOLOGY INSTITUTE

1700 South Mount Prospect Road | Des Plaines, Illinois 60018
T: 847 768 0500 | F: 847 768 0501 | www.gastechnology.org



GTI is an independent not-for-profit organization serving research, development, and training needs of the natural gas industry and energy markets. Most of the nearly 230-person GTI staff is based at GTI's headquarters located on an 18-acre campus in the Chicago suburb of Des Plaines, Illinois. Over 70% of our personnel are highly trained engineers and scientists. GTI has over 280,000 square feet of office, laboratory, shop, library, and training space with over 110,000 square feet devoted to laboratory, fabrication and testing facilities.

GTI provides programs and services (contract R&D, collaborative R&D, technical services, and education programs) to industry, government and consortia that seek competitive advantages through the development and implementation of technology. GTI programs help organizations outsource and leverage technology investments. GTI also operates offices and facilities in Washington, D.C., Catoosa, Oklahoma (near Tulsa), Houston, Texas, and Birmingham, Alabama.

GTI currently manages approximately \$50 million in government and industrial research and development contracts per year (over 100 projects), and has been managing contracts of this type since the 1940's. GTI's RD&D (Research, Development, and Demonstration) project management process has been recommended as a model for other RD&D management agencies, and has been used successfully on commercialization of nearly 500 products. The estimated Net Present Value of products brought to commercialization by GTI in just the last 5 years is between \$4 and \$7 billion.

Ritger Law Office
ATTORNEYS AND COUNSELLORS AT LAW

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February 13, 2010

Assembly Select Committee on Clean Energy
Wisconsin State Assembly
State Capital
Madison, WI 53707

Re: Hearing on Renewable Energy

Dear State Representatives:

The Ritger Law Office represents landowners who are interested in commercial wind development across the state of Wisconsin. Our clients include the landowners who host the Butler Ridge Wind Farm in Dodge County and the Cedar Ridge Wind Farm in Fond du Lac County. We also represent hundreds of other landowners from Grant County in the southwest to Door County in the northeast, all of whom are interested in hosting commercial wind development of their land.

The biggest problem for wind development from a landowners perspective is a lack of markets for the wind energy produced. The lack of demand for renewable energy is causing low rent prices for landowners and long delays, and sometimes indefinite delays, in the development of wind farms developed by utilities and energy companies.

Furthermore, a lack of access to markets has completely blocked any ability of landowners, small businesses or small communities from developing their own commercial scale wind power. Many other states and foreign countries have seen the benefits of distributed commercial wind power where one or two commercial wind turbines in a particular location will feed power directly into the local grid.

For example, in the state of Minnesota there are over 470 megawatts of installed commercial scale wind power owned by farmers, small business people, school districts, farm coops and other community groups. In Wisconsin there are no such projects because the utilities will not buy the power and there appears no legal mechanism to sell the power directly to energy consumers.

As an example, I myself have developed six commercial scale distributed wind projects in Washington, Ozaukee, Fond du Lac and Sheboygan Counties. All permits have been obtained

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and financing and wind turbines are available. However, because there is no market for the electricity, these projects have sat for more than five years without any construction activity. Unless you do something to open markets, these projects will likely sit for a lot longer.

There are many landowners, small business people and other community organizations that are anxious to invest in commercial scale wind projects in Wisconsin. It is your opportunity and challenge to open the doors to permit this investment.

Thank you for consideration.

Respectfully submitted,

RITGER LAW OFFICE



Edward J. Ritger

EJR/no



E4, Inc.
Special Committee on Clean Energy Jobs
February 15, 2010
Assembly Bill 649

I appreciate the opportunity to address the Committee about the environmental and economic implications of this important bill. My name is Elizabeth Rich. I am an officer and director of E4, a nonprofit 501(c)3 organization established in Wisconsin in 2003. Our four "E's" stand for Energy Efficiency, Environment and Economy. We seek to advance economic growth and environmental stewardship through the implementation of innovative, practical, sustainable, economically viable and profitable energy solutions. I am also an attorney who has practiced environmental law in many parts of Wisconsin for 25 years.

Underlying Assembly Bill 649 are many initiatives and goals that E4 supports: reductions in greenhouse gas emissions, construction of zero net energy buildings, and promotion of energy efficiency and renewable energy. At this point in time, however, we have registered as neutral on the bill due to reservations about the exclusion of direct use renewable energy technologies from provisions of the bill applicable to other renewable energy technologies.

Direct use renewables have environmental and economic benefits that traditional renewables do not. There is no more efficient use of the sun for solar energy than light pipes, solar water heaters and other direct use renewables. Such technologies eliminate the need for expensive distribution and transmission systems and create jobs for Wisconsin workers. Direct use renewable energy will create green manufacturing jobs in

E4, Inc.

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Strengthening the Economy and Improving the Environment through Energy Efficiency™

our state and put hundreds of Wisconsin construction workers, roofers, plumbers and electricians to work installing direct use renewable energy systems across the state.

For all of these reasons, we cannot afford to exclude direct use energy technology from the renewable energy portfolio. There is no good reason for doing so, nor should one-year "renewable certificates" be issued for megawatt hours displaced by direct use renewables. Rather, direct use renewables should generate Renewable Energy Credits in the same way as photovoltaic and other renewable technologies do.

Respectfully submitted,

E4, INC.

Elizabeth Gamsky Rich



Hello, I am Michael Hastings, and I am a founder of Half Moon Power, a Wisconsin-based renewable energy developer. My background is neither in energy or environmental work. It is in China – I began my studies of Chinese in 1989, just following the Tiananmen Square incident, a time of great turmoil in a country that had the raw ingredients to become an extremely powerful rival. During my time there in investment banking with Morgan Stanley, we brought many commodity businesses public, some of which are becoming household names now such as Sinopec and CHALCO. These companies are competing for finite resources directly with America, and are driving the global markets for raw materials.

I am concerned about America and its ability to not just compete, but also survive economically. And I have a desire to see small business in Wisconsin flourish, particularly in new industries such as renewable energy.

I see a similar growth opportunity in energy infrastructure as I saw in the macro Chinese economy. For the first time in a long while the United States, and in particular the Midwest, could be the focal point for growth worldwide. As many of you know, it has the raw ingredients needed to lead the wind energy space. We're in a tough spot economically these days, and it's understandable that there

is a desire to retreat for familiar ground. However, new industry development and small business growth is never easy; it is always uncertain and risky. But a greater risk and uncertainty for us is to avoid taking the bold move of securing our energy future.

My business is wind energy development. I see the benefits of an enhanced RPS as a good thing not just for the wind industry and energy diversity nationwide, but also as a good thing for business growth in Wisconsin. Wisconsin and the businesses it supports are falling behind quickly in the next massive wave and catalyst for economic growth. Whether or not you believe in the benefits of wind power, others around the globe do. In fact, billions of dollars from Europe and elsewhere in the world are looking to invest in renewable energy over the next 20 years in the Upper Midwest and primarily in wind energy. My question is, will Wisconsin be seeking that capital, or will it shun this investment and potential lifeline for jobs creation over the next 10 years.

As a Wisconsin-based wind farm developer, we ironically have found more success in the neighboring states of Michigan and Minnesota. In the case of Michigan, it was the last Midwestern state to adopt an RPS, but it has a unique twist to its RPS that has stimulated incredible activity statewide in this our

economy. Their RPS is completely in-state, which necessitates hundreds of MW and hundreds of millions of dollars of capital investment directly into its own economy, not its neighbor states.

Many who oppose a Renewable Portfolio Standard, say wind farms don't create jobs. They certainly do create jobs. Wind farms have distinct life cycles which create employment opportunities for a broad range of people. During the 5 year predevelopment period, we employ countless consultants, vendors, attorneys, accountants to bring the project to the point of construction, all the while paying landowners thousands of dollars per year.

During the construction phase, millions in supply contracts are awarded to local gravel and concrete suppliers. Hundreds are involved in the physical construction, and local participation is favored. During operation, wind farms are lean and mean – but they do employ as many as 15 highly skilled and local people to provide maintenance for the facility.

Throughout the life cycle, the entire townships derive economic benefits, not just our landowner hosts. The townships gain reliable revenues from these assets, and local businesses are positively impacted as a result. The velocity of money increases as revenues are deposited into local banks which in turn loan out more

capital to business. In the long run, other states have demonstrated that manufacturing facilities will follow their market – just look at Iowa and now Michigan, a leader and a new up-and-comer in the Midwestern wind-related manufacturing business.

Wind energy is not the only solution to our energy needs, but it will make a meaningful contribution. If we start today, the earliest possible completion date for a wind project is about 4 years. What we do know is that commodities are a finite supply in a world of continued growth. Energy demand is still forecast to jump in the coming decades, and Wisconsin needs to have the foresight to make clean and naturally-occurring wind power a healthy part of its energy mix.

I don't know exactly what percent of our mix should be for renewables, but today we only have a handful of projects in the ground here. Most would agree that the transmission infrastructure can handle much more wind without significant balancing issues.

Another lesson from China is one of technology diffusion. As technology is commoditized, prices come down rapidly. We need not look further than flat panel TVs and computers to understand what happens to a product's price during its life cycle. When wind turbine manufacturing reaches that point, wind will be

ever cheaper and even more competitive than today, since there are no variable raw material costs involved.

I firmly believe that this is a great opportunity to create another economic cluster for entrepreneurs in Wisconsin. Our leadership is in a position to help facilitate this growth by enhancing the state's RPS and I fully support it. Thank you.

Joe Ray

I am a retired school district administrator, with 30 plus years of school district facilities and safety coordinator experience. I continue as a columnist for the Wisconsin Association of School Board member's magazine Wisconsin School News since 1996. I write about K12 public school district facilities and safety issues. My web site is available for your review at www.publicschoolfacilities.com I have a four year degree in resource management, and Industrial management experience and I am a USN veteran.

The topic of cap and trade, global warming issues have short and long term concerns. I ask this committee to use extreme caution about these issues. For example I list the following issues:

*** A 25% renewable energy portfolio with a net \$16.2 Billion cost increase by 2025 which will be paid by utility rate-payers.**

- **The loss of 43,093 private sector jobs. (Wisconsin has lost 163,000 jobs in the last year.)**
 - * A per capita loss of disposable income equal to \$1,012 per year.**
 - * A \$1.6 billion drop in gross wages.**
 - * If adopted, Wisconsin's motorists will have to follow California's emission standards meaning people in California whom we did not elect will determine the emissions standards for Wisconsin's drivers.**
- Now let's take a look at our Wisconsin K12 public school facilities related cost issues.

Fifty per cent of our 2048, plus K 12 multimillion dollar school building inventory exceeds an obsolete fifty years old. We have failed to maintain a modern level for these inefficient and obsolete school building mechanical systems, with the gains of professional engineering science over the last fifty years. These older schools are the major source of environmental deficiencies. In addition fifty per cent of our public school districts are one building, with a few two building districts with questionable resources to identify, and correct environmental problems, and other related health and safety issues. For Example:

Christine Clair School Board President La Crosse School District, testified to the following:

"We have 16 facilities, 10 elementary. 6 buildings are over 50 years old. We have three middle schools, the average age of our middle schools are 77 years old. We have two high schools. The youngest high school being 21 years old. The average building age total in our district is 52 years old. The average boiler age in our district is 37 years old and we have six boilers that are over 60 years old."

Now consider the following:

Wisconsin's K-12 school administrators including District Superintendents (CEO), District Business Managers (CFO), School Principals, and Vice Principals are not

required to have formal instruction in the areas of School Facilities Administrative Oversight, and School Safety Administrative Oversight for their administrative license.

Now consider the annual budget cost of energy is traditionally the highest cost, second only to employee's wages salaries, and benefits.

In addition most if not all of our school districts do not track energy consumption for their schools. It remains unknown which school buildings are energy efficient, and which schools need to improve. When we want to know the efficiency of our cars we divide our mileage by the miles driven per tank. In other words if we do not measure it we are not managing it. In addition our professional educator administrators leaders from the school districts, through the DPI, continuing through the legislature, and to the governor have avoided transparency, and have avoided competition between school districts to reduce energy consumption for our entire K12 school building inventory.

What I am trying to say is this carrot and stick method, with heavy on the stick will not work for Wisconsin. This result will most likely be the same for small and large business, and the bottom line is we can not afford cap and trade, and as for "Global Warming" we do not have adequate and honest data driven information to confirm the requirements. The huge expense is not justified.

Joe Ray

From: "Fox Valley Initiative" <jimsteineke@gmail.com>
To: <facilitator@charter.net>
Sent: Monday, February 15, 2010 7:52 AM
Subject: Fox Valley Initiative - Wisconsin's Own Global Warming Bill

Fox Valley Initiative - Wisconsin's Own Global Warming Bill



Wisconsin's Own Global Warming Bill

Posted: 14 Feb 2010 08:41 PM PST

We need to take action on this and call our legislators today!! If you do not know their number, please find them by clicking here (and then save their contact info for later calls!):

<http://www.legis.wisconsin.gov/w3asp/waml/waml.aspx>

At a time in which the nation and our own state are hemorrhaging jobs and people are having a hard time making ends meet, our leaders in the Wisconsin State Legislature are considering bills that equate to economic suicide. These bills, AB 649 and SB 450, are the global warming bills that will enact strict regulations on energy that will lead to lost jobs and higher energy costs.

At the federal level, thanks in part to the election of Scott Brown as well as a few reasonable Democrats, President Obama's so-called "Cap & Trade" legislation is all but dead. Unfortunately, because of a lame duck in Governor Doyle and a tone deaf state legislature, it seems that Wisconsin will walk this plank alone and unilaterally disarm in the nationwide competition for new jobs.

Here are a few of the ramifications of this bill:

- * A 25% renewable energy portfolio with a net \$16.2 Billion cost increase by 2025 which will be paid by utility rate-payers.
- * The loss of 43,093 private sector jobs.
- * A per capita loss of disposable income equal to \$1,012 per year.
- * A \$1.6 billion drop in gross wages.

We are being governed by people that think spending over 1 billion dollars annually to generate electricity from cow manure is a good idea. This is only the tip of the global warming induced iceberg otherwise known as the "renewable energy jobs act". These bills were the results of Gov Doyle's Global Warming Task Force and are both currently under debate, Gov Doyle hopes to sign them into law at an earth day ceremony this spring. An extensive analysis of the bills have been conducted by the Beacon Hill Institute and the WI Public Policy Institute.

43,000 fewer private sector workers supporting 12,000 more government workers resulting in significant reductions in wages, disposable income, and investment. The full report is worth reading and can be seen here.

<http://www.wpri.org/Reports/Volume22/Vol22No7/Vol22No7.html>

While the economic impact of such legislation would be difficult for most of us to avoid, Gov Doyle showed no interest.

"The Task Force was not asked to evaluate whether the costs of addressing climate change will be greater or less than the benefits achieved. Many members of the Task Force believe that the costs of not addressing climate change substantially outweigh the costs of reducing GHG emissions. Several members of the Task Force disagree or would proceed on a slower track. Under Executive Order 191, the Task Force is not charged with resolving this debate." This quote is taken from a statement by Todd Stuart, WI Industrial Energy Group. The full statement can be seen [here](#) and is also worth reading (at the very least, scroll down to the conclusion).

<http://wispolitics.com/index.iml?Article=184770>

Among other things the bills would adopt many of the California Air Resource Board (CARB) regulations which would substantially increase the cost of new vehicles, and would increase gas prices by as much as 60 cents per gallon. Enacting these restrictions would be economically insane at any time, but especially so when you consider that California is considering repeal of many of these standards because of the negative impacts.

Carbon dioxide levels would be required to be reduced to at least 75% less than 2005 levels by 2050, again without concern for economic impact.

The renewable mandate would increase to 25% by 2025. Most of the additional renewable energy required to meet this mandate would be imported either from wind farms in states to our west or hydroelectric from Canada, both of which would be very inefficient. Ironically we are in the process of bringing on line a clean coal plant that has the capacity to exceed our demand now and for the foreseeable future.

<http://www.jsonline.com/news/milwaukee/82567142.html>

The economic arguments against this legislation are numerous, compelling and valid, and should be researched and expressed to all of our representatives.

There is another point that is at least as important, and that is the questionable validity of the need to address climate change in general and carbon dioxide emissions in particular, at all. The developments in the "climategate" scandal have been virtually ignored in the American press, but are legitimate concerns nonetheless. If you are not familiar with these developments involving the UNs IPCC, Englands East Anglia University, Penn State University and Michael Mann, James Hanson and Goddard space/NASA, etc.....through any search engine the information is readily available and very relevant to this proposed legislation.

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Google Inc., 20 West Kinzie, Chicago IL USA 60610

My name is Mark Yeager and I own & operate a Photovoltaic or Solar Electric design and installation business near Eagle River & Rhinelander in northern Wisconsin. We are called SUN & Daughters Renewable Energy and I made the 500 mile round trip journey to meet with you so you could understand real ways the Clean Energy & Jobs Act affects real people today.

Our small company has employed young men that have invested their time to learn & train for renewable energy and my wife and 2 daughters. The young men; Scott, Tyson, Kevin, & Alan have to be employed as independent contractors, only as jobs materialize, and therefore cannot depend on simple attributes such as steady employment much less health insurance. It is well documented in the renewable energy field that it takes about 6 months from selling a PV installation to job completion; due to filing permits & paperwork, coordinating shipping & site schedules, and commissioning after inspections or approvals. Although I'm grateful for our serving utility's brief buy-back program that helped pay customers for their contribution of clean energy, energy that does not damage human health or our lakes or atmosphere, these programs are not reliable. For example our utility's voluntary buy-back program was offered for a little over 7 months and 4 of the 5 customers I was working with were too late to take part in the program. The result was much less work, no chance to set up real employees, less clean energy on our grid and more polluting expensive energy consumed. The benefits of clean energy in our state are too valuable to rely on variable, voluntary, too brief programs. Since they benefit all citizens and resources of Wisconsin, these programs would be best mandated by Wisconsin.

Almost 10 years ago I participated on the Citizens Advisory Committee for the proposed rewrite of Wisconsin's Atmospheric Mercury Regulations. The exact same arguments we heard then; of high electricity bills that will drive the elderly from their homes and force businesses to close resulting in catastrophic job losses, are being carted out today against Advanced Renewable Energy Tariffs and against a reasonable Renewable Portfolio Standard. The facts are that in my area alone utility rates have doubled in the last 10 years and we are still relying on the same dirty, health & environment damaging, non-renewable energy sources we did for the past 10 years; in fact, more so since another coal burning plant was added during that time. Another fact is that Solar Electric systems in my area can provide electricity within a penny per KWH of our dirty technologies over a 25 year system life; but Solar Electric systems are forecast for a 60 year and more life, making that clean electricity available at half the cost of dirty electricity. For most people this choice is a "no brainer" (cheaper clean power or expensive polluting utility electricity?) but the total system costs are required up front. A renewable tariff that reasonably reduces these costs would help implement more of the clean energy Wisconsin deserves for all its businesses, especially the tourism that is so dependent on Wisconsin's lakes and sustainable logging tied to healthy forests.

I can guess that over the course of several hearings you've been cajoled, scolded, shamed, and even threatened with myths of economic demise if too much renewable energy is implemented, so I promised a joke:

A guy goes into a bar and sees a penguin sitting on the barstool.

He sits down next to the penguin and the penguin has both flippers holding up it's head and is staring into it's drink.

The guy says "why so glum chum?"

The penguin looks up and says "oh my home is under water and so are the eggs and chicks and the glacier that held our clan of 300,000 melted and floated away...that's all"

The penguin heads for the door, turns back and says "thanks for the emissions".

So the guy calls to the bartender "what's with him?"

The bartender says "oh, it's a bad joke".

I didn't promise a good joke or a funny joke...and I hope we don't continue the bad joke on the people of Wisconsin and others we share the planet with. Passing the Clean Energy & Jobs Act will provide jobs for a lot more young men & women in Wisconsin than the several I named that could be employed with our small company. The racks I need come from New Mexico and California...these are easily made and could be manufactured right here in Wisconsin, but we need the demand to get workers I've talked to, like a stainless steel welder who recently lost his job, to get orders to set up. Solar Panels could be manufactured right here in Wisconsin and they likely will be soon, but we need to keep them busy to ensure competitive pricing. At the National Electric Code seminars I attend at Nicolet College and some off campus by Mid-State College, electricians are asking for work with these systems. The technical colleges could be training and educating the four young men I mentioned at the beginning and many more men & women, but they need to know there will be jobs. With your commitment to a clean and healthy future for Wisconsin, the Clean Energy & Jobs Act can provide them. Thank you very much.

WISCONSIN LOW CARBON FUEL STANDARD

Wisconsin's proposed Clean Energy Legislation has a laudable goal – to reduce greenhouse gas emissions. However, the bill proposes a low carbon fuel standard (LCFS) which will jeopardize Wisconsin jobs, hurt the state's economy, will have a minimal impact on emission, and lacks necessary opportunities for public involvement.

Murphy Oil USA operates a small refinery in Superior. It is a very small refinery by industry standards (For example, the Flint Hills refinery in Minnesota has a capacity of 320,000 barrels per day (BPD) compared to 35,000 BPD at the Superior Refinery). Although lacking the economies of scale of other refineries in the region, Murphy's dedicated and mostly union workforce, and strong community support has allowed our facility to stay in business and seek unique advantages particularly in the asphalt paving business. Further, our Superior location provides good access to Canadian crude oil via the Enbridge Pipeline.

The plant is a significant economic driver in NW Wisconsin with 150 full time employees and a contractor workforce that averages about 125 full time employees. These jobs are threatened by the LCFS portion of this legislation.

Murphy is the only manufacturer of petroleum based fuels in the State of Wisconsin. Murphy is also in the bio-fuels production business having recently acquired an ethanol production facility in North Dakota. Nearly all of the gasoline produced at the refinery is blended with ethanol, and much of our diesel is blended with bio-diesel.

Murphy has a number of concerns with the LCFS:

➤ Outsourcing of the legislative process.

As proposed, the legislative and rule making responsibility for a LCFS would be “outsourced” to a quasi-non-governmental organization and the Governors’ of other states.

This sets new and bad precedent. Under this proposal, the Wisconsin Legislature would vote without knowing the bill’s eventual impact on their constituents.

The Legislature will be ceding its authority to the “Low Carbon Fuel Standard Advisory Group” (special interests not responsible to the voters of Wisconsin) which “makes recommendations on the design of the state LCFS”. If the majority of Midwest Governors endorse those recommendations, the WDNR must promulgate rules consistent with those recommendations. Under this proposal, Wisconsin residents and their representatives are never able to consider and debate the costs and benefits for a rule that will affect each and every family in the state.

➤ Uncertain Impacts

As of now, the LCFS that must be met is undefined. The Legislature should hold thoughtful, transparent, and robust debate about the benefits to be gained from the LCFS versus the potential impacts on motorists and employers, fuel supply reliability, and the impact on Wisconsin’s economy. That debate is not possible before the standard is defined.

➤ Enforcement Concerns

The bill clearly specifies fines of \$5,000 for any person who sells a transportation fuel that does not meet the (undefined) standard.

What is not clear is how one will distinguish fuel that meets the LCFS from fuel that doesn’t meet the (yet to be defined) standard. Regardless of the source of the crude oil, transportation fuels are similar in their carbon content. You can’t sample fuel at a retail

outlet and determine if it is low carbon or not. What we are really talking about here is how much energy goes into extracting the crude oil and transporting it to a refinery.

Murphy produces about 2% of the transportation fuel sold in Wisconsin. All other petroleum diesel, gasoline, and kerosene sold in Wisconsin come from outside the State (most of it via pipelines). Petroleum products moved by pipeline are "fungible" meaning that the products are indistinguishable from one another, and therefore difficult or impossible to trace the exact origin of the fuel. Think about power from wind turbines and a coal fired plant produced into the grid. A user could pay for power from one source or another, but there is no way to determine where the user's power actually came from. The same generally applies to fungible petroleum products.

Conceivably, one would have to track the source of the gasoline back from the retailer to a terminal, back up a pipeline to a specific refinery (potentially almost anywhere in the country) to a specific batch of fuel. As difficult as that sounds, it is even more difficult to determine exactly what crude oil was being run (potentially several sources at once).

Keep in mind that the Midwest is a large net importer of finished petroleum products (mainly from the Gulf Coast). Think about how you will determine that naphtha made in Texas from a blend 50 % Saudi Light / 50% Russian Urals crude then sold to a refinery in Louisiana for further processing into gasoline along with components made from Venezuelan heavy and Mexican Isthmus crude oil meets the standard or not.

➤ Potential Unintended Consequences

Presumably, this bill aims to curb the use of oil from the Alberta oil sands region and to boost the production of bio-fuels in the Midwest. This creates a problem for operations at our refinery and most other Midwest refineries that process synthetic crude oil from the Oil Sands.

However, the standard may also restrict the use of "heavy" conventional Canadian crude oil. About 50% of the transportation fuel sold in Wisconsin is derived from Canadian sources. Other sources of petroleum products that meet the LCFS will be needed (at a higher transportation cost) until such time as sufficient biofuel production capacity exists. Should this burden be imposed on Wisconsin residents at this time?

Heavy Canadian crude oil is used to manufacture paving asphalt. Over a third of the crude oil processed at Superior is done so specifically for asphalt production. The Superior Refinery produces a significant amount of the Midwest region's asphalt. If fuel derived

from heavy oil (being processed to produce asphalt) is unable to meet the undefined and unknown LCFS, then Superior would not be able to produce asphalt, jeopardizing the continued operation of the refinery, which would lead to supply problems in the Midwest.

Canada is a friendly neighbor. Canadian oil is plentiful and secure. The infrastructure to bring Canadian oil to market is already in place in Wisconsin and the Midwest. Forcing the region to use other sources of oil (e.g. Mideast, Venezuela, Russia) is not good policy.

The LCFS establishes a Midwest only market for fuels. Refinery maintenance, pipeline outages, or other issues may result in supply interruptions and price spikes as fuels from other parts of the nation may not be able to be brought to the Midwest.

California is attempting to enact a similar LCFS. Once the entire fuel life cycle carbon emissions are taken into account (including land use considerations), it is likely that domestically-produced conventional corn based ethanol will not meet the standard. Wisconsin could run into a similar unintended consequence of killing the local incumbent biofuels industry. Next generation biofuels should be encouraged, but without jeopardizing existing biofuels that contribute about 10% of domestic fuel supplies. .

➤ Limited Reductions in greenhouse gas emissions

Greenhouse gas (GHG) emissions are a global issue. A Wisconsin LCFS imposed in the hopes of reducing the use of fuels derived from sources such as the oil sands will not be effective. Canada will continue to produce oil sands and that product will find markets. China is currently making investments in the region. In this case, GHG emissions will not be reduced, but Wisconsin motorists will pay more for their fuel.

MURPHY
OIL USA, INC.

DAVID J. PODRATZ

Refinery Manager

Superior Refinery
2407 Stinson Avenue
Superior, Wisconsin 54880
Phone: (715) 398-3533

February 15, 2010

TO: Members of the Assembly Special Committee on Clean Energy

FROM: Jeff Lyon, Director, Governmental Relations

RE: Opposition to AB 649 – The Clean Energy Jobs Act

On behalf of the Wisconsin Farm Bureau Federation, I want to thank you for the opportunity to comment on AB 649, the Clean Energy Jobs Act. 2010 WFBF policy adopted by delegates at our December 2009 annual meeting “opposes climate change legislation at the state level that would increase costs to production agriculture.” Further, our members believe that the climate change issue needs to be addressed at the national and international levels. They are extremely concerned that passage of this bill will make Wisconsin a regulatory island and negatively affect our farms, processing industry and job creation.

As you know, the Clean Energy Jobs Act is based on some of the recommendations from Governor Doyle’s Task Force on Global Warming. The bill sets goals for state GHG emission reductions, energy conservation, the generation of electricity from renewable sources, and new building energy use. There is no cap and trade program.

While WFBF opposes AB 649, we believe farmers can play an integral part in moving Wisconsin and the U.S. toward greater energy independence, but, we are concerned that the majority of provisions in AB 649 if implemented will lead to higher fuel, fertilizer and electricity costs. Unlike other businesses farmers cannot just relocate to another state. We need land and nearby processing facilities.

The Energy Crop Reserve Program, which allows DATCP to enter into contracts with farmers to receive payments for the establishment and production of eligible energy crops, could have some potential benefits. The ECRP could increase farmer income, become another cropping alternative and assist in energy independence. Still, we have several concerns and questions.

- 1) The program is not funded and no source of funding has been identified. To my knowledge no program cost estimates have been made by DATCP. The program will have to compete against other crops. Is this a \$1 million program or a \$20 million program? Will funding come from GPR or will ratepayers be assessed to fund the program?
- 2) The market for biomass is relatively nonexistent. Growing biomass is just one aspect of the process. Aggregation, storage and delivery systems for biomass need to be developed. How much biomass from farmland will be needed? How will increased acres going into biomass affect our dairy and livestock farmers and the amount of corn for ethanol plants? Why would farmers make capital investments in machinery and other equipment to receive a subsidy payment when they don’t know how long the program will be in

existence? Why not use the Charter Street project as a pilot program to see if there is a future?

- 3) To grow biomass such as switch grass, farmers, to be profitable, will have to manage the crop like any other which means applying nutrients to the crop. Will farmers be able to apply nitrogen and phosphorus at levels that will allow for maximum yields and production and still meet nutrient management standards? Some studies say yes while others say no.

The Renewable "Feed In" Tariff provisions sometimes known as Advanced Renewable Tariffs (ART), which require electric utilities to purchase electricity generated from a renewable resource under standard, predefined purchase terms and conditions could benefit a few farmers that have methane digesters or wind turbines and could encourage more renewable electricity generation.

Obviously, if electric utilities have to pay more for renewable electricity generation, other ratepayers will foot the bill. What will the additional costs be to ratepayers? WFBF believes ARTs need to be more fully analyzed.

When reviewing an all encompassing bill like AB 649, WFBF weighed the provisions that could be good for production agriculture against the negatives. At this time there are too many unknowns and we are opposed to the bill.

No fiscal estimate with costs to the state has been completed. No detailed analysis of costs to businesses and individuals has been completed. Further, there has not been a detailed government analysis or estimates of GHG reductions versus the cost to achieve them. The Public Service Commission is basically given taxing power in the form of increased rates to meet the bill's stated goals.

With respect to jobs lost versus jobs created, it is interesting that the state Office of Energy Independence reports that 15,000 green jobs will be created by 2025, while a study commissioned by the Wisconsin Policy Research Institute indicates that 43,000 jobs will be lost. Before passing a comprehensive bill like AB 649, state citizens need more certainty with respect to jobs especially during the recession we are now experiencing.

As I mentioned before, WFBF believes climate change is an issue both national and international in scope and should be dealt with accordingly. Wisconsin cannot become a regulatory island.

The reasons for our opposition to AB 649 mirror the reasons we oppose the climate change legislation at the federal level. The major reason national climate change legislation has stalled is because Senators from both parties from states that rely heavily on coal for electricity generation have seen the adverse economic impact that bill will have on their states and constituents. This isn't surprising since the bill was crafted by legislators from the East and West Coasts which rely less on coal for electricity generation and stand to benefit.

According to the U.S. Department of Energy, energy costs, under the federal climate change bill, could grow by \$1,870 per household. Combined with higher costs for food, the additional yearly hit on families would total about \$2,300 per household.

With nearly 70 percent of electrical generation in Wisconsin coming from the use of inexpensive coal, we are concerned that the emission reduction goals in AB 649 will require utilities to find other sources of more expensive energy to "fill in the gap" without any realistic alternatives to meet the bill's goals by the target dates.

Farmers are generally price takers and have limited ability to pass increased production costs on to consumers. We are concerned that increased fuel, fertilizer and energy costs will shrink Wisconsin's nearly \$60 billion agriculture industry.

Other issues that cause concern for WFBF include the adoption of a low carbon fuel standard (LCFS) and California vehicle emission standards.

Under a low carbon fuel standard GHG emissions are determined for all steps in the production, distribution and use of the fuel (a life cycle analysis). The LCFS would be set by an advisory group established by the Midwest Governor's Association.

The LCFS could potentially be a disadvantage to Canadian crude because it could have a higher carbon-intensity than conventional crude from the Middle East or Venezuela which would result in higher prices since more than half of Wisconsin motor fuels are refined from Canadian crude. Further, the LCFS could also adversely affect biofuels production if a full cycle analysis (which includes land use changes) is used in calculations.

The California vehicle emission standards are more restrictive than federal laws and Wisconsin would be delegating authority to California to determine our emission standards. Further, the California standards treat ethanol unfavorably.

Again thank you for the opportunity to comment on AB 649. With all the unknown costs and limited benefits to business and the environment, the WFBF respectfully requests that you oppose AB 649.

**Wisconsin Transportation Builders Association
Associated General Contractors of Wisconsin
American Lung Association in WI
Associated Builders & Contractors of Wisconsin
Wisconsin Grocers Association
Owner-Operator Independent Drivers Assn., Inc.
WI Engine Manufacturers and Distributors Alliance
Miller-Bradford & Risberg, Inc.
Wisconsin Kenworth Madison**

**Wisconsin Motor Carriers
Dane County
Inland Power Group
Brooks Tractor Inc.
Antigo Construction
Capitol Underground Inc.
Transport Refrigeration Inc.
Leonardo Academy**

February 15, 2010

Dear Co-chairs Black and Soletsky, members of the Assembly Clean Energy Jobs Committee:

Thank you for your work. As you continue your work on the Clean Energy Jobs Act, we would like to call your attention to one important provision designed to reduce diesel idling.

We, the undersigned, as members of the Wisconsin Clean Diesel Coalition (WCDC), are writing to urge you to rework this language by substituting provisions agreed to by our members and attached to this letter. We believe that this approach would be far more effective, and avoid some of the problems and shortfalls of the provision included in the Clean Energy Jobs Act.

Idling reduction is one of the most cost-effective ways to reduce ozone, particulate and greenhouse air emissions in a way that saves money and jobs.

Unnecessary vehicle idling creates air pollution that wastes fuel, causes air pollution, and increases our reliance on foreign oil. The idling of diesel vehicles, especially, is a source of particulate matter pollution, and contributes to portions of the state not meeting Environmental Protection Agency' Clean Air standards. Reducing avoidable idling is an attainable goal and has an immediate, positive impact on air quality and fuel consumption. This is why the WCDC strongly encourages the adoption of language that targets *all* commercial vehicles, which is the most effective way to reduce idling.

Many local governments and businesses have taken action to decrease vehicle idling. For example, Dane County and Madison limit idling of government vehicles and on city and county property. The City of Milwaukee has also enforced idling restrictions on all of their vehicles and conducts idling training for their equipment operators. Many school bus, trucking and other fleets have also established policies and/or created incentives to reducing idling among their equipment operators. The Clean Diesel Coalition has worked with all types of diesel fleets across the state to successfully reduce idling, clean up engines, and use cleaner fuels like ultra low sulfur diesel and bio-diesel.

A statewide approach provides a level playing field for businesses associated with the transportation and construction industry, while providing the benefits of decreased pollution

throughout the state. A statewide regulatory framework will prevent the creation of islands of idling regulations across the state that could cause possible confusion.

Twenty other states, including Illinois, California, and Arizona regulate idling with exceptions based on weather, sleeping and rest, reasonable operation, and for emergency vehicles.

Wisconsin is also a leader in clean diesel technology with Cummins Emissions Solutions, Universal Silencer, Combustion Catalytic, Idle Free Systems and many other makers of clean diesel and idling reduction technologies based here. The Clean Air Task Force estimates that idling reduction and other clean diesel measures could save 100,000 lives over the next 21 years.

The language was negotiated with an involved process of key stakeholders including local officials, trucking, construction, school bus, transit, clean air, Departments of Natural Resources, Commerce and Transportation representatives.

We feel this language is better than the current bill language and Global Warming Taskforce language in several ways:

1. Covers commercial gasoline and diesel engines, both large sources of emissions;
2. Covers commercial on-road and off-road vehicles, both large sources;
3. Has fair exemptions to protect the health and safety of drivers and operators; and
4. Was created by the industries that will be impacted, ensuring higher compliance.

For all these reasons, we urge you to include this language in your final bill or make it a separate bill that can be passed in this session.

Thank you,

Brett Hulsey, Dane County Supervisor
Tom Walker, Wisconsin Transportation Builders Association
Tom Howells, Wisconsin Motor Carriers
Jim Boullion, Associated General Contractors of Wisconsin
Dona Wininsky, American Lung Association in WI
Steve Stone, Associated Builders & Contractors of Wisconsin
Brandon Scholz, Wisconsin Grocers Association
Joe Rajkovacz, Owner-Operator Independent Drivers Assn., Inc.
Myron Birschbach, Inland Power Group
Patrick R. George, Wisconsin Kenworth Madison
Mark Bentley, WI Engine Manufacturers and Distributors Alliance
Tom Gorst, Miller-Bradford & Risberg, Inc.
John Talbert, Antigo Construction
Doug Myers, Transport Refrigeration Inc.
John Rodgers, Leonardo Academy Inc.
Dennis Olson, Capitol Underground Inc.
Mary Kay Brooks, Brooks Tractor Inc.
Patrick Mackey, ESW Group

An Act to Conserve Fuel and Preserve Clean Air

Be it enacted by the People of the State of Wisconsin as follows:

Idling requirements for motor vehicles used for commercial purposes

1. Applicability. This section applies to:

A. All motor vehicles used for commercial purposes on roads and for off-road activities, excluding vehicles operated completely by electric power;

B. Locations where commercial motor vehicles load or unload.

2. General requirement for loading and unloading locations. A person who owns a location where a motor vehicle used for commercial purposes that is not subject to an exemption under subsection 4 loads or unloads may not cause a driver of that vehicle to idle for a period longer than 30 minutes by requesting that the vehicle continue running while waiting to load or unload at that location. To the maximum extent practical, a person subject to this subsection shall minimize delays in loading and unloading operations in order to reduce idling times.

3. General requirement for vehicles. An owner or operator of an on-road motor vehicle used for commercial purposes may not cause or permit such a vehicle to idle for more than 5 minutes in any 60-minute period except as provided in subsection 4.

An owner or operator of an off-road motor vehicle/equipment used for commercial purposes may not cause or permit such a vehicle/equipment to idle for more than 5 consecutive minutes when the equipment is not in use except as provided in subsection 4.

No idling shall be permitted by any motor vehicle used for commercial purposes within 100 feet of schools, daycares, elderly housing and hospitals that are clearly marked with signage visible from the roadway. For construction activity that involves off-road motor vehicles, the project manager has the responsibility to clearly mark the above-listed sensitive receptors on the plan documents with a 100 foot border delineated.

4. Exemptions. Subsection 3 does not apply for the period(s) when:

A. Remains motionless because of traffic or an official traffic control device or signal or at the direction of a law enforcement official;

B. Operating a defroster, heater, air conditioner, emergency lighting or installing equipment solely to prevent a safety or health emergency and not as part of a rest period;

C. A police, fire, ambulance, public safety, military or other emergency or law enforcement vehicle idles while being used in the course of official business;

- D. The primary propulsion engine idles for maintenance, servicing, repair or diagnostic purposes if idling is required for such an activity;
- E. Part of a state or federal inspection to verify that all equipment is in good working order if idling is required as part of the inspection;
- F. Idling of the primary propulsion engine is necessary to power work-related mechanical or electrical operations other than propulsion, including, but not limited to, mixing, dumping or processing cargo; operating a lift, generator, crane, pump, drill, hoist, or other auxillary mechanical equipment; straight truck refrigeration, utility service restoration or to protect prescription or over-the-counter drug products. This exemption does not apply when idling for cabin comfort or to operate nonessential on-board equipment;
- G. Off-road equipment or transit buses are in immediate stand-by mode for passenger loading/unloading, project and/or worker safety, for readiness of an upcoming phase of a specific project element, or is needed for a stop-and-go project element.
- H. An armored vehicle idles when a person remains inside the vehicle to guard the contents or the vehicle is being loaded or unloaded;
- I. An occupied motor vehicle with a sleeper berth compartment idles for purposes of air conditioning or heating during a rest or sleep period;
- J. Necessary for regeneration of exhaust emission control devices or to recharge batteries on a hybrid vehicle;
- K. A passenger bus idles a maximum of 15 minutes in any 60-minute period to maintain passenger comfort while non-driver passengers are on board;
- L. Idling due to mechanical difficulties over which the operator has no control if the vehicle owner submits the repair paperwork or product receipt by mail within 30 days to the appropriate authority verifying that the mechanical problem has been fixed. If no repair paperwork is submitted within 30 days, the vehicle owner is subject to penalties as provided in subsection 5;
- M. Warming up to the manufacturer's recommended operating temperature;
- N. An on-road motor vehicle idles for not more than fifteen (15) consecutive minutes per

hour when the outside temperature is above 75 degrees F or below 40 degrees F. No time limit for off-road equipment when temperatures are outside of these ranges.

O. The outside temperature is below 10 degrees F the restrictions of this law will not apply.

5. Penalties. Any owner and/or operator of a motor vehicle used commercially and/or owner of a load/unload location who violates this section is subject to a forfeiture of \$150.00 for each violation.

6. Preemption. This act shall preempt and supersede a local ordinance or rule concerning the subject matter of this act.

COMPARISON OF IDLING REDUCTION PROVISIONS

SB 450/AB 649	WI Clean Diesel Coalition
SIMILARITIES	
Duration: 5 min allowed per 60 minutes	SAME
Exemptions: AB 649 language includes exemptions for traffic conditions, temperature, work-related mechanical operations, regeneration of emission controls, maintenance procedures.	Includes exemptions similar to AB 649, but WCDC has additional exemptions beyond the current language since so many types of vehicles would be impacted. The additional exemptions include: operating defroster, lighting and other controls during work (not rest) for safety and health; emergency and law enforcement vehicles; state and federal inspections; stand-by modes for transit and construction; armored vehicles; trucks with sleeper berths while on rest periods; mechanical difficulties with proof of issue; warm up.
DIFFERENCES	
Applicability: Current language only affects trucks	WCDC version is for all commercial equipment and load/unload locations
Penalties: Current language indicates \$20-\$1,000 depending on number of offenses	WCDC indicates \$150 for each violation
Temperature: Current language for temperature is for below 10 degrees F and above 90 degrees F.	WCDC completely exempts below 10 degrees F and allows for 15 minutes per 60 minutes when below 40 degrees F or above 75 degrees F.



AMERICAN INNOVATION:

MANUFACTURING LOW CARBON TECHNOLOGIES IN THE MIDWEST
EXECUTIVE SUMMARY

THE CLIMATE GROUP

FREDERICK A. AND BARBARA M. FEE INSTITUTE
FOR CLIMATE ACTION AND POLICY

JANUARY 2010

EXECUTIVE SUMMARY

For too long, the overwhelming body of research related to climate policy has focused exclusively on the costs associated with taking action. And when research has been conducted about the benefits, the findings have often been too vast to easily understand and deconstruct. This report therefore aims to answer the following question:

WHAT IS THE ECONOMIC OPPORTUNITY FOR MANUFACTURING SELECTED LOW-CARBON TECHNOLOGIES IN THE MIDWEST?

To answer this question, we estimate the economic benefits associated with growth in three low-carbon technology markets: wind turbine components, hybrid powertrains and advanced batteries.

We estimate these benefits in two different scenarios.

- The “policy scenario” assumes that three climate and energy policies are in place: a “green” stimulus program; a \$17 price on carbon, resulting from a cap on US emissions; and a national renewable electricity standard (RES) of 20% by 2020.

For wind turbine components, we consider a “high” and “low” policy scenario to account for differences in how policy might affect US wind capacity. For hybrid powertrains, we only consider one policy scenario, due to consistency in projections of the share of hybrids in total US vehicle sales. For advanced batteries, we consider a “high” and “low” policy scenario to account for differences in the share of the advanced battery market that will be supplied by US manufacturers.

- The “no policy” scenario assumes that these three climate and energy policies are not in place.

The findings in this report should be considered in light of its narrow scope.

This report does not measure the net economic impact of climate and energy policies, in that we do not look at the costs associated with these policies. The revenues and jobs we found in low-carbon sectors do not take into consideration revenues and jobs lost in other sectors. More research is therefore needed to ascertain a truly complete picture.

We also do not consider all of the economic benefits of climate and energy policies, which include substantial energy efficiency savings, new jobs created outside of the manufacturing sector, benefits from the manufacture of hundreds of additional low-carbon technologies not examined in this report, and opportunities to export these low carbon technologies to other countries.

Instead, we take a deep look into one part of the potential benefits: the increased manufacture of three low-carbon technologies in the Midwest.

Low Carbon Technologies in the Midwest

Primary Metals	Chemicals
Energy-efficient appliances	Amines for carbon capture and storage (CCS)
Energy-efficient HVAC and building systems	Electrolytes for advanced batteries
Public transportation systems	Energy-efficient building insulation
Wind turbine components	Enzymes for increasing the energy efficiency of industrial processes
	Photovoltaic (PV) solar cells
Machinery Production	Automotive
Biomass boilers	Advanced batteries
Combined heat and power systems	Hybrid powertrains
	Diesel particulate filters
	Lightweight vehicles

Of the 250 low-carbon technologies identified by McKinsey & Company, we look at 3 of the 15 in which the Midwest has a competitive advantage.

We estimate the benefits of manufacturing low-carbon technologies for only the Midwest region, defined as Illinois, Indiana, Michigan, Ohio, and Wisconsin, and we do so only until 2015.

Our limited scope enables us to take sector specific factors into consideration, and not to make too many assumptions about the future, which we feel leads to a more accurate estimate than would otherwise be possible.

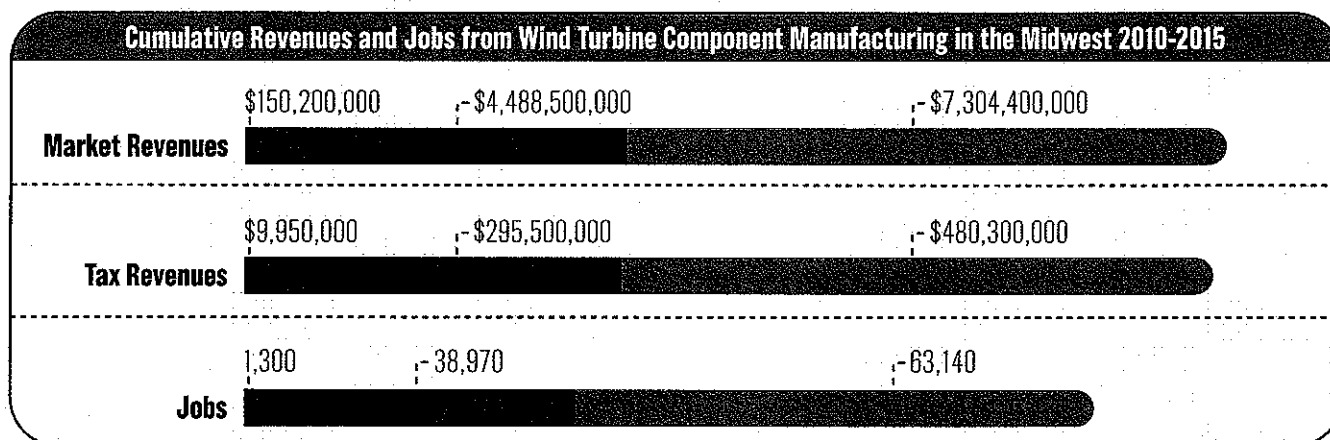
The end result provides a realistic answer to the question we set out to address.

Wind Turbine Components

Our case study on wind turbine components found that the three climate and energy policies would lead to significant new market revenues, state and local tax revenues and jobs.

In the "policy-low capacity" scenario, where policies would increase US wind capacity to 65.7 GW, we estimate \$4.3 billion in additional market revenues, \$286 million in additional tax revenues and more than 37,600 new jobs in the Midwest by 2015. ("Additional" revenues and jobs are in comparison to the "no policy" scenario.)

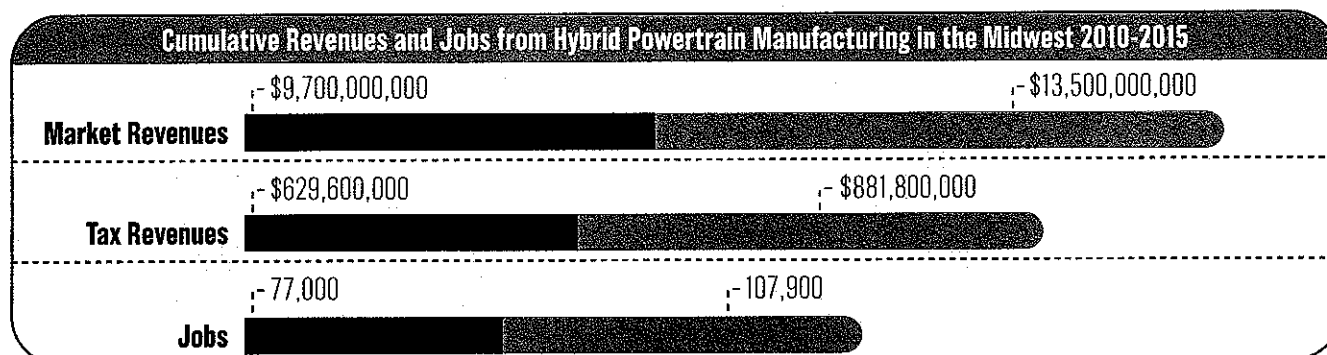
In the "policy-high capacity" scenario, where policies would increase US wind capacity to 90 GW, we estimate \$7.1 billion in additional market revenues, \$470 million in additional tax revenues and more than 61,800 new jobs in the Midwest by 2015.



	No Policy (28.6 GW)	Policy-Low (65.7 GW)	Policy-High (90 GW)
Market Revenues	\$150,200,000	\$4,488,500,000	\$7,304,400,000
Tax Revenues	\$9,950,000	\$295,500,000	\$480,300,000
Jobs	1,300	38,970	63,140

Hybrid Powertrains

Our case study on hybrid powertrains found that the three climate and energy policies would lead to \$3.8 billion in additional market revenues, \$252 million in additional tax revenues and 30,900 new jobs in the Midwest by 2015.



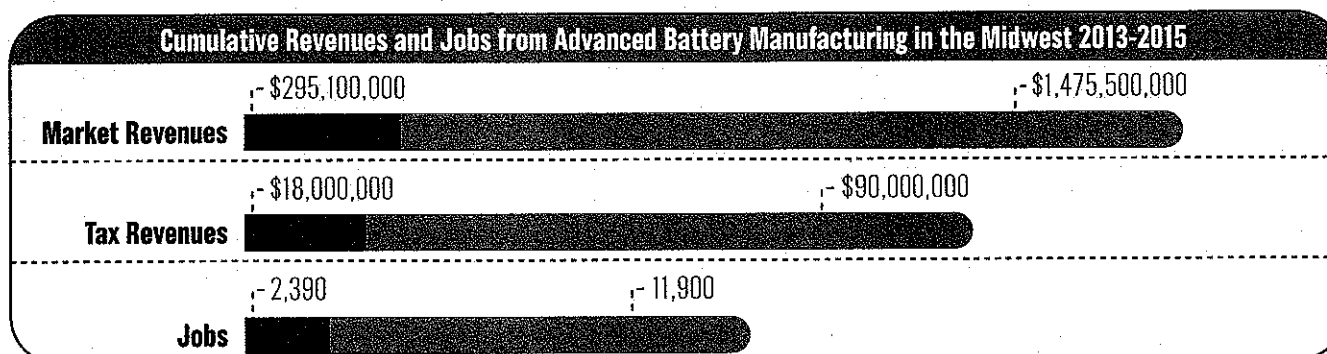
	No Policy	Policy
Market Revenues	\$9,700,000,000	\$13,500,000,000
Tax Revenues	\$629,600,000	\$881,800,000
Jobs	77,000	107,900

Advanced Batteries

Our case study on advanced batteries found that the three climate and energy policies would lead to modest new market revenues, state and local tax revenues and jobs.

In the "policy-low share" scenario, where the US supplies 10% of the domestic advanced battery market, we estimate \$295 million in additional market revenues, \$18 million in additional tax revenues and more than 2,300 new jobs in the Midwest by 2015.

In the "policy-high share" scenario, where the US supplies 50% of the domestic advanced battery market, we estimate \$1.4 billion in additional market revenues, \$90 million in additional tax revenues and 11,900 new jobs in the Midwest by 2015.



	No Policy (US supplies less than 1% of total demand)*	Policy-Low Share (US supplies 10% of total demand)	Policy-High Share (US supplies 50% of total demand)
Market Revenues	NA	\$295,100,000	\$1,475,500,000
Tax Revenues	NA	\$18,000,000	\$90,000,000
Jobs	NA	2,390	11,900

* Because the US currently supplies less than one percent of the global advanced battery market, the size of the domestic advanced battery market in the "no policy" scenario is assumed to be zero.

In total, the three climate and energy policies would lead to additional market revenues of up to \$12.3 billion, additional tax revenues of up to \$812 million and up to 104,640 new jobs from the wind turbine component, hybrid powertrain and advanced battery manufacturing sectors in the Midwest by 2015.

For access to the full report, including state by state estimates,
please visit: <http://www.theclimategroup.org/our-news/events/2010/1/21/american-innovation-report/>

"The climate and our economy need help urgently. This timely report documents the huge boost we can give our economy if we adopt strategies to accelerate investment in the low-carbon technologies that will rejuvenate the industrial Midwest, put our people back to work and ensure the Midwest remains globally competitive."

Pat Quinn, Governor of Illinois

"The Climate Group's latest publication, American Innovation: Manufacturing Low Carbon Technologies in the Midwest provides clear, solid job and revenue numbers for low carbon manufacturing in the Midwest. The report is a validation that in reducing greenhouse gas emissions, the opportunities are commensurate with the challenges."

Stanley "Skip" Pruss,
Michigan's Chief Energy Officer and Director of the Department of Energy, Labor & Economic Growth

"20th century innovations gave America a standard of living unimaginable a century before. In this new century, the industries that will thrive are those that are able to make that standard of living sustainable - by using renewable resources, and ones that do not contaminate our air, water and threaten our climate. As demand shifts from oil-burning cars to ones powered by renewably-generated electricity, the American Midwest can develop the components for that supply chain, the turbines to capture the wind electricity for those cars, and the batteries to store that electricity. The findings in this report show that this kind of Midwest leadership is indeed possible. Just as the region thrived in the 20th century, with a proper adjustment to orient in line with global trends, it will thrive again in this century."

Mike Granoff, Head of Oil Independence Policies, Better Place

"With debate over the implications of prospective climate change regulation hotter than ever in the U.S., American Innovation: Manufacturing Low Carbon Technologies in the Midwest US offers timely insight into some of the ways well-crafted policy responses can spur greentech innovation and generate economic opportunity."

William L. Thomas, Counsel, Skadden, Arps, Slate, Meagher & Flom LLP

One Person

can invest in the future with

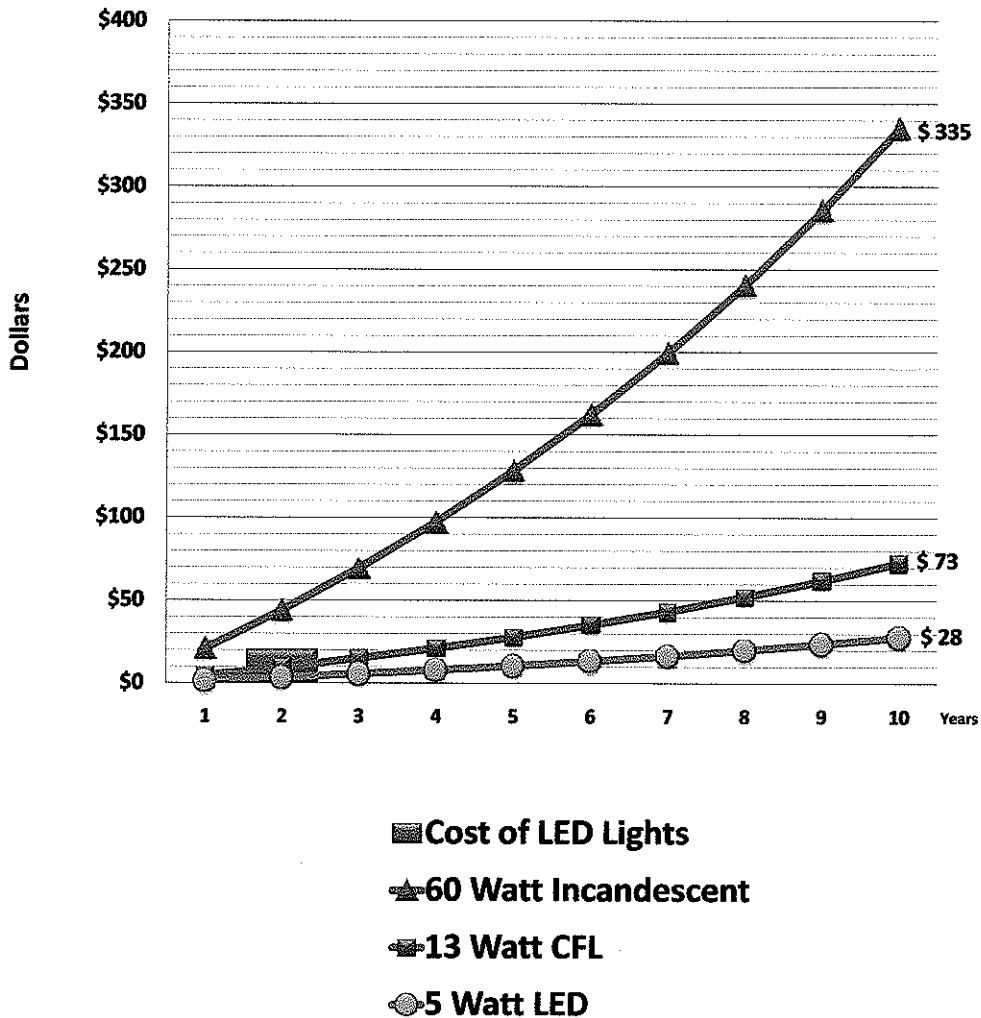
ONE LIGHT *

Cost to Operate ONE LIGHT

60 Watt Incandescent vs.

13 Watt CFL vs.

5 Watt LED



Number of Lights: 1
Average Energy Cost per kWh: \$.12
Hours of Daily Use: 8
Annual Fuel escalation rate: 10 %



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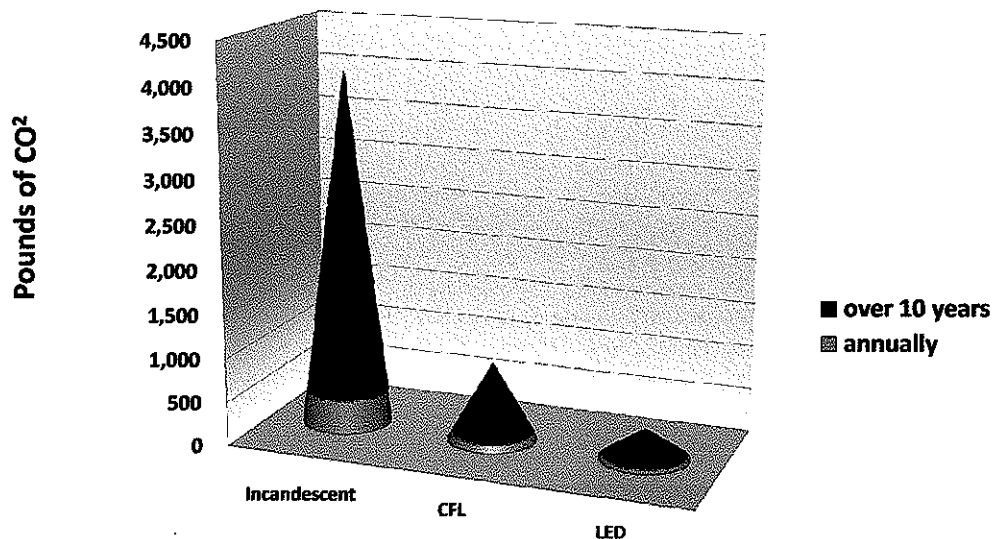
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One Person

can make a difference with

ONE LIGHT *

Cumulative CO² Emissions from
Burning Coal to Generate Electricity
to Operate **ONE**
5 Watt LED vs. 13 Watt CFL vs. 60 Watt Incandescent



Environmental Savings

Actual Savings				Equivalent Savings	
kiloWatt hours*	POUNDS of CO ² emitted by	POUNDS of coal burned	TONS of coal burned	BARRELS of crude oil	CARS taken off the road

5 Watt LED vs. 13 Watt CFL

1 st Year	23	49	23	0.01	0.01	0.00
10 Years	234	489	234	0.12	0.14	0.01

5 Watt LED vs. 60 Watt Incandescent

1st Year	161	336	161	0.08	0.09	0.01
10 Years	1,606	3,365	1,606	0.80	0.94	0.08

13 Watt CFL vs. 60 Watt Incandescent

1st Year	137	288	137	0.07	0.08	0.01
10 Years	1,372	2,875	1,372	0.69	0.80	0.07

* based on 8 hours of daily use



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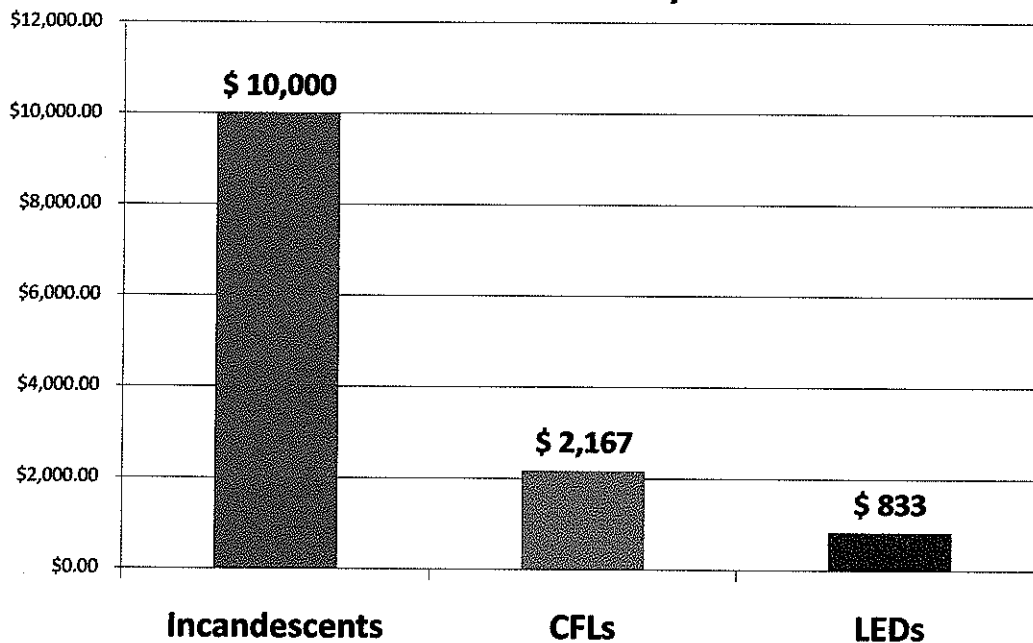
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One Person

can "Go Solar" sooner with

ONE LIGHT *

**Estimated Cost of a
Solar Electric (PV) System*
needed to produce the electricity to operate
7 light bulbs
at 8 hours daily use**



Light Type	Watts	Estimated System Cost	Estimated System Size (kW)	Annual kWh
Incandescents	60	\$10,000.00	1.00	1226
CFLs	13	\$2,166.67	0.22	266
LEDs	5	\$833.33	0.08	102

Number of lights 7

Hours of Use 8

* This is a ballpark estimate of the cost of a solar PV fixed array needed to offset the electric usage for the above lighting scenario only.

It is not to be construed in any way as a quote for actual goods or services.

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2/15/10

Dear members of the Special Committee on Clean Energy Jobs:

My name is Rebecca Derenne and I am registering in favor of AB 649. While I think this bill could go even further to make Wisconsin and surrounding areas more healthy and sustainable, I am pleased that there is a move to finally address real energy and environmental issues.

To the critics that say this bill does not provide enough jobs, I say, "In an economic downturn even some additional jobs are helpful." I have lost my job due to the economy, and I know that right now many people see little hope for a new job with comparable pay and benefits. There could be plenty of new jobs and opportunities by investing in renewable and energy efficient programs and processes, and by investing in more recycling-related programs and products. Ultimately, if we destroy this planet or make it unfit for human life, will it really matter if we were able to keep the status quo?

Efforts like this bill make sense, common sense, and dollars and cents. We cannot afford to wait longer to be more energy efficient, and we need to move to an economy that is more sustainable, vibrant and diverse.

Let's be leaders in Wisconsin, and show that other states besides California 'get it.'

Sincerely,

A handwritten signature in cursive script that reads "Rebecca Derenne".

Rebecca Derenne
817 N Chestnut Ave
Green Bay, WI 54303

TO: Members of the Assembly Committee on Clean Energy Jobs
FROM: Margi Kindig
DATE: February 12, 2010
RE: Clean Energy Jobs Act, AB 649

I was a citizen member of the Governor's Task Force on Global Warming. As such, I was one of only two members of the Task Force who did not represent a special interest or have an employer whose views I was obligated to reflect. I was free to bring an unbiased and common-sense perspective to the discussion.

These are a few things which are important to know about the task force process:

- This was a skillfully led, collaborative process in which no one's voice was stifled. Non-task force members as well as members of the public were welcome to participate.
- Costs were a very important and carefully considered subject of both discussion and modeling.
- The final report represents a delicate compromise which was carefully developed to achieve the widest possible support for the recommended policies.
- With a few exceptions, the consensus at the end of the process was that the recommended suite of policies represents a strong, effective, and achievable response to the enormous challenges posed by anthropogenic climate change.

Several principles should inform our discussion and guide our action as the CEJA is considered.

Observed events are unfolding more rapidly than climate models predicted

Climate models underestimated the speed at which projected changes would occur. Glaciers are melting more rapidly than predicted; the ocean is losing its ability to absorb carbon more quickly than expected; and 100-year weather events have already become much more commonplace. We are already paying dearly for our inaction of the past. Although we cannot automatically attribute any single severe weather event – such as the Lake Delton flood – to atmospheric carbon concentrations, the difference between isolated events on the one hand, and long term trends on the other is crucial. The trend is obvious.

We need all of the policies in the package

Modeling done for the Task Force projects that if all the recommended policies except cap and trade were implemented, Wisconsin's greenhouse gas emissions would return to 2005 levels by about 2014. Contrary to some peoples' suggestions, this does not mean the policies will lead to failure and we therefore shouldn't enact them; rather it means we need *all* the policies in this bill *now*, and may eventually need to do more as the future unfolds. Without these policies, emissions will rise substantially.

In order to maximize the benefits of all the recommended policies, it is important not to double count them. Energy efficiency and conservations measures should not be counted towards the RPS.

Energy Conservation and Efficiency Measures are the Cheapest, Easiest and Lowest Risk Options for Reducing Greenhouse Gas Emissions

There seems to be widespread agreement on this, but even this obvious point has been subject to some attack and manipulation to serve special interests. It is crucial that the savings achievement goals of 2% of electric use and 1% of natural gas use be firm. The language recommended in the memo from the Task Force co-chairs dated January 26, 2010 should be incorporated.

Early action is both crucial and cost-effective

Just like saving for retirement, early investment pays the greatest dividends, both in responding effectively to climate change and in absolute dollars.

Carbon dioxide stays in the atmosphere for about a century. Many of the impacts we are already experiencing and observing - movement and extinction of species, more severe weather events such as floods and droughts, and more chaotic climate generally - are the result of carbon emitted decades ago. Our emissions today add to the already accumulated carbon in the atmosphere. Obviously, getting to the now recommended 350 ppm from 385 ppm is easier than getting there from 400 or 450 ppm.

People are understandably concerned about adding *any* expense to their already stretched budgets. However, there has been little attention paid to the fact that early action will actually save us money in the long run. The careful modeling done by the Technical Advisory Group of the Global Warming Task Force shows that implementing the recommendations of the task force will actually **lower** electricity bills in the long run. (see attached chart presented at the Task Force's June 10, 2008 meeting.)

The cost of doing nothing will be much higher than the cost of acting now

There are few reliable studies about the costs of doing nothing to reduce our greenhouse gas emissions. The Stern Review is perhaps both the most extensive and the most reliable, and it showed that the cost of doing nothing could reach 20% of gross global product by 2050, while the cost of effective action to reduce greenhouse gas emissions over the same period of time is likely to be no more than 1-2%.

We may not be able to put an exact price tag on our failure to act, but we need look no further than Gays Mills, Lake Delton, and, most recently perhaps, Washington DC to know that chaotic climate is already costing us dearly.

This is not a partisan issue

Unfortunately, politics today has become so partisan, and so rooted in ideology, that neither facts nor the soundest science seem to guide policy-making. Why climate change should be a partisan issue is simply beyond comprehension. We are all in this together, and everyone's children and grandchildren will bear the burdens of our inaction.

For their sakes, we must act now and pass the Clean Energy Jobs Act.

Governor's Task Force on Global Warming

Relative Electric Prices and Costs

Technical Advisory Group

June 10, 2008

Electricity Prices (Rates) in 2020			
% Change from Reference Case			% Change from High Fuel Reference Case
Sector	All Policies (except for Cap and Trade)	All Policies plus Deep Carbon Reductions	All Policies with 50% Higher Fuel Prices
Residential	10.9%	11.6%	9.1%
Commercial	13.5%	14.1%	11.0%
Industrial	15.9%	16.3%	12.4%
Average Retail	13.5%	14.1%	11.0%

Electricity "Bills" in 2020			
% Change in real \$ cost from Reference Case			% Change from High Fuel Reference Case
Sector	All Policies (except for Cap and Trade)	All Policies plus Deep Carbon Reductions	All Policies with 50% Higher Fuel Prices
Residential	-10%	- 2.4%	- 3.7%
Commercial	- 7%	-16.7%	-16.7%
Industrial	- 5%	-17.0%	-16.3%



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Testimony on Assembly Bill 649

Presented by Richard S. Kadansky

Manager, State Government Affairs - Minnesota, Wisconsin, Illinois

Assembly Special Committee on Clean Energy Jobs

February 15, 2010

Representative Black and Representative Soletski, members of the committee, my name is Richard Kadansky, Manager of State Governmental Affairs for Marathon Petroleum Company covering the states of Wisconsin, Minnesota and Illinois. Thank you for this opportunity to comment on Assembly Bill 649.

Marathon Petroleum is heavily invested in the refining, transportation and marketing of petroleum products for the state of Wisconsin and throughout the Midwest and Southeast states. Specific to Wisconsin, we operate an oil refinery and terminal facility in St. Paul Park, Minnesota (about twenty miles over the border) that services western Wisconsin, and three other product terminals that provide fuels for the state in Milwaukee, Green Bay and Rockford, Illinois. Marathon has interests in pipeline operations throughout the Wisconsin, and also supplies approximately 90 independently-owned Marathon gas stations retailing under the Marathon brand, and owns and operates 69 Speedway and SuperAmerica stations throughout the state. Overall, our company employs nearly 1,000 people in Wisconsin.

Marathon is proud of its support of renewable fuels and is one of the largest blenders of ethanol and biodiesel in the nation. Last year in Wisconsin alone we sold approximately 237 million gallons of ethanol-blended gasoline through our two terminals, and sold 30 million gallons of biodiesel-blended fuel from outside the state for transportation into Wisconsin. Marathon has invested millions of dollars into upgrading our Wisconsin, Minnesota and Illinois terminal infrastructure to accommodate the marketing of renewables over the past few years. We also have interests in ethanol plants in Ohio and Indiana, as well as a partnership with Mascoma Corporation, a leading biofuels development firm specializing in cellulosic ethanol production.

Though the goals of AB 649 are commendable, after our considered review I am appearing today to voice Marathon's opposition of the Low Carbon Fuel Standard contained within the proposal.

Marathon's primary concern centers on the practical aspect of manufacturing a low carbon fuel. At present, there is no technological or practical way in the manufacturing process to reduce the carbon intensity of our fuel. In simplified terms, carbon is the element that puts the "spark" in the gasoline. The intensity *can* be lowered by blending with biofuels – as we are doing – but cannot be lowered or eliminated via the manufacturing process itself. Also, there is great uncertainty as to when technology may develop that will allow our industry to meet any types of carbon intensity reductions as part of the production phase. *If* and when such technology develops, I would anticipate both significant time and financial commitment would be needed to allow for proper infrastructure development. The economic viability of producing and selling such a fuel would no doubt be a key driver in any decision to do so.

A major flaw in a Low Carbon Fuel Standard is that it only reduces greenhouse gas emissions in the geographic area where it is applied. Other states' emissions will no doubt negate any progress Wisconsin intends to make and, on a global basis, places with growing emission levels such as China and India *will* still have an effect on North America. The global environment does not recognize Wisconsin's borders.

Also of significant concern, a Low Carbon Fuel Standard in essence discourages the use of crudes from Canada which would no doubt be problematic for Wisconsin, since the state now gets approximately half of the oil it uses from this North America trading partner. Should this type of standard be enacted, the state would inevitably prohibit the use of these feedstocks and be almost totally reliant on crude oil from other areas including foreign sources. Let me also state that Marathon's Minnesota refinery, which services much of Wisconsin, currently uses about 80% Canadian crude.

We also share the belief that a Low Carbon Fuel Standard has the potential to unnecessarily complicate fuel distribution in Wisconsin, and seriously threaten an effective response to supply disruptions. We contend that this legislation will undoubtedly result in increased consumer costs with the creation of boutique fuels specific only to Wisconsin. It is anticipated that it will significantly reduce the flexibility of the petroleum infrastructure and therefore new costs may eventually surface for consumers at the pump.

Marathon feels it is important for Wisconsin to recognize that Congress has already acted with respect to setting fuel standards by including a Renewable Fuel Standard (RFS) through 2005's Energy Policy Act and the Energy Independence and Security Act of 2007. At this time, we oppose any state-specific Low Carbon Fuel Standard that would further complicate the existing Federal RFS. Proper time should be taken to assess the results of the Federal RFS, as well as California's LCFS program.

Our recommendation for both Wisconsin and the Midwest in general is to avoid creating a patchwork of fuels in the region, as the Midwest is already at times product-short and does not need to exacerbate this situation. Creating a fuel such as a low carbon fuel is not in the best interest of consumers and can negatively impact both Wisconsin's petroleum product supply and consumer economics surrounding these products.

Thank you for your attention and the opportunity to comment on Assembly Bill 649.

What your energy bill is funding

Since 2002, nearly \$166 million collected on utility bills for state energy programs has been diverted to other accounts.

Transfers from energy efficiency programs:

FISCAL YEAR	AMOUNT	TRANSFERRED TO:
2002-'03	\$8,365,600	General fund
2003-'04	\$17,600,000	County and municipal aid payments
2004-'05	\$20,000,000	County and municipal aid payments
2004-'05	\$236,800	Earned Income Tax Credits
2004-'05	\$9,232,000	Wisconsin Works (W-2)
2005-'06	\$18,185,300	General fund
2005-'06	\$954,500	Department of Health and Family Services
2006-'07	\$9,232,000	Wisconsin Works (W-2)
2006-'07	\$16,949,400	General fund
2006-'07	\$954,500	Department of Health and Family Services
2006-'07	\$9,232,000	Wisconsin Works (W-2)
TOTAL	\$110,942,100	

In 2006, Legislature passes fix to prevent raids from energy efficiency programs. Transfers came instead from low-income energy assistance and weatherization fund:

FISCAL YEAR	AMOUNT	TRANSFERRED TO:
2007-'08	\$9,232,000	Wisconsin Works (W-2)
2008-'09	\$9,232,000	Wisconsin Works (W-2)
2009-'10	\$9,139,700	Wisconsin Works (W-2)
2010-'11	\$9,139,700	Wisconsin Works (W-2)
TOTAL	\$36,743,400	

In June, Legislature passes surcharge now hitting utility customers:

FISCAL YEAR	AMOUNT	TRANSFERRED TO:
2009-'10	\$9,139,700	District attorneys
2010-'11	\$9,139,700	District attorneys
TOTAL	\$18,279,400	

OVERALL TOTAL: \$165,964,900

Source: Legislative Fiscal Bureau

Journal Sentinel

Utility surcharge could make some ratepayers hot

Money diverted to pay for district attorneys

By Thomas Content of the Journal Sentinel

Posted: Oct. 16, 2009

The latest reason that utility bills are going up around the state has nothing to do with keeping the lights on.

A new surcharge on utility bills, tacked on as part of the budget that was passed in June, will be used to pay the salaries and benefits of district attorneys in counties across Wisconsin.

The prosecutors are being paid from a fund originally designed to help poor people pay their utility bills and weatherize their homes. The extra fee, which hits We Energies customers in December, is the latest in a series of budget maneuvers that have sent a total of \$166 million from electricity ratepayers to non-energy-related state government purposes since 2002.

Low-income advocates are already worried about the next state budget, and will be holding strategy sessions within weeks to determine how to prevent such a move from happening again. The Legislature, they say, can't seem to resist raising any kind of fee - even those for programs helping the poor - to help balance the state budget.

"The bottom line is this is turning utilities into collectors for other things, and it's bypassing what the law was supposed to do," said Bob Jones, public policy director with the Wisconsin Community Action Program. "If it's not DAs, what's it going to be, something else?"

He added, "Low-income households are being punished, and utility customers are being punished."

Gov. Jim Doyle and Wisconsin lawmakers praised themselves in 2006 when they passed a bill that stopped budget raids on utility customers' bills. That legislation halted the diversion of \$111 million in funds for energy efficiency to help balance the state budget.

But the diversions continued - only the state tapped a different pot of money, the funds designed to help the poor pay utility bills or weatherize their homes.

We Energies will collect more than \$6 from every residential customer over the next two years for district attorney salaries, utility spokesman Brian Manthey said. Factories, the utility's largest customers, will pay about \$400 each over the next two years to fund DAs, he said.

We Energies will collect \$4 million this fiscal year for that purpose, or 12% more than the \$32 million for low-income energy assistance and weatherization programs that it would have collected without the new surcharge.

The new diversion of funds appears to have been an unintended consequence of a legislative move to halt similar budget transfers from the state's Focus on Energy program.

At the time, the Focus on Energy money was protected and it was believed that lawmakers wouldn't tap the low-income funds. They would be too leery of being perceived as taking money from the poor, several people actively involved in energy policy legislation recalled last week.

"At that time, no legislator would go after that," said Charlie Higley, executive director of the Wisconsin Citizens' Utility Board.

But it happened one year later, with the energy funds going to the Wisconsin Works, or W-2 program, and it's happening again with the funds for the prosecutors.

A Journal Sentinel review of budget documents prepared by the Legislative Fiscal Bureau shows the amount of money being raised from utility customers for non-energy uses essentially doubled, from \$18.3 million in the last budget to \$36.7 million.

And it's happening at a time when the effects of the recession are making it harder for people on fixed incomes to make ends meet. The Social Development Commission, which administers utility-bill energy assistance to poor families in Milwaukee County, processed 48,000 aid applications last year, said Deborah Blanks, SDC executive director.

Need could jump

With unemployment up sharply over the last year, the number of people getting energy assistance could jump by 10% or 20% this winter, she said.

"We're finding people who never thought that they would need energy assistance are coming to us for that support," Blanks said. "In tight budget times, the Legislature and leaders really have to look at ways to cover a broad spectrum of costs. At the same time, my concern is for the people who need it most, in terms of energy assistance to keep their houses warm during difficult, harsh Wisconsin winters."

Dan Schoof, deputy secretary of the state Department of Administration, said Doyle's proposed budget tried to fix the funding gap for energy assistance in this budget.

That proposal would have allowed full funding for low-income energy aid, but then would have tacked on another \$9.14 million for W-2. The Legislature went in a different direction, choosing to allocate that extra funding to county district attorneys.

The budget law requires that the fee be collected for two years - and not be carried over to the next budget, in 2011-'13.

Broader problem

Republican lawmakers see this as an example of a broader problem - with the budget raising fees on everything from cell phones to power bills to help fund state government and avoid raising taxes per se.

"This thing for DAs is very, very irritating thing for constituents, and I totally agree with them," said state Sen. Robert Cowles (R-Green Bay), who led the Senate's work on the 2006 bill that halted diversions of energy efficiency funds.

Funding district attorney salaries as part of a charge meant to keep the lights on "is absurd," Cowles said. "There's no nexus. There's no connection. It should be coming from the (state's) general fund."

Of the state's five investor-owned utilities, only one - Wisconsin Public Service Corp. - included a description in monthly statements that explained the new fee would pay district attorney salaries.

Federal funds

Schoof, of the Department of Administration, noted that the state has ample funds available for weatherization, thanks to a big jump in federal funding through the American Recovery and Reinvestment Act.

"I don't think anyone is suggesting right now that there are not enough resources for weatherization in the next two years, with the dollars that have come through with the stimulus bill," he said.

Low-income energy advocates welcome the federal stimulus dollars, but say giving money to W-2 and now district attorneys isn't helping poor people pay utility bills. Statewide, the amount of money paid out in energy assistance fell by 3.5% last year even as the number of people receiving energy aid jumped 17%.

The utility bill surcharge for district attorneys is required by law to end on June 30, 2011. But Jones, of WisCAP, said the budget-writers could keep the surcharge alive in the future.

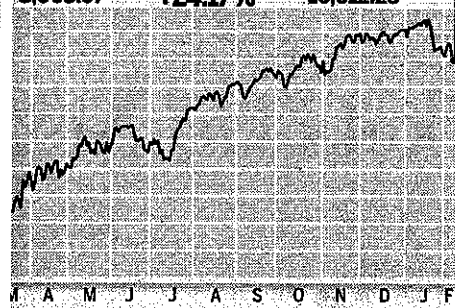
"If I want to pay for DA costs, that's a legitimate cost but I shouldn't be paying that on my electric bill any more than I should be paying for that when I go to the grocery store."

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+1.87	+89.0	SearchM un	6.25	-3.90	-38.4
+5.33	+87.1	ReadyMix	2.10	-.92	-30.5
+2.86	+54.9	ExideTc	5.41	-2.32	-30.0
+18.70	+44.2	AeroViron	24.15	-9.92	-29.1
+1.10	+41.5	PhaseFwd	10.60	-4.02	-27.5
+.86	+39.8	ParkBcp h	5.10	-1.85	-26.6
+4.83	+38.2	LithiaMot	5.82	-1.98	-25.4
+1.98	+37.5	CapBNC	3.11	-1.05	-25.2
+1.70	+36.9	PECO Il rsh	3.75	-1.24	-24.8
+2.11	+32.4	Labophm g	2.00	-.62	-23.7
+3.26	+31.5	Hurray!	2.70	-.83	-23.5
+.71	+31.4	NetSuite	12.16	-3.63	-23.0
+1.78	+28.4	MoSys	3.55	-.94	-20.9
+.85	+28.3	SpiritAero	17.01	-4.44	-20.7
+2.74	+27.8	Toreador	10.07	-2.54	-20.1
+.85	+27.4	Santarus	3.77	-.93	-19.7
+1.16	+26.3	CreditAcc	42.79	-10.43	-19.6
+.58	+25.8	DoublTake	8.22	-1.99	-19.5
+1.53	+25.3	GenCorp	4.51	-1.09	-19.5
+.51	+25.2	NIVS IntT n	2.94	-.69	-19.0

and companies with extensive local operations

High	Weekly Low	Last	Fri Chg	Wkly Chg	Wkly %Chg	Yrly EPS	52-wk %Chg
5.84	24.96	25.24	+.21	-.12	-.5	+2.12	+8.2
7.35	15.93	16.30	-.01	-.47	-2.8	+0.10	+9
1.89	30.12	30.70	+.10	-.50	-1.6	+0.66	+8.9
9.99	19.14	19.38	-.04	-.48	-2.4	+1.86	+23.8
1.29	1.01	1.06	+.02	-.19	-15.2	-14.13	-36.6
7.40	24.56	24.95	+.09	-.88	-3.4	-0.11	+18.7
2.98	12.09	12.55	+.26	-.16	-1.3	-1.25	-16.6
2.81	30.18	30.92	-.81	-.51	-1.6	+4.14	+23.6
7.95	32.58	36.66	+.04	-1.13	-3.0	+1.80	+53.9
6.75	6.27	6.37	+.03	-.31	-4.6	+0.29	-22.8
0.48	47.47	48.62	+.17	-.09	-.2		+98.9
8.93	27.09	27.84	+.30	-.22	-.8	+1.45	+26.3
9.75	8.42	9.10	+.15	+.35	+4.0	-10.17	+604.7
8.64	26.91	27.79	+.39	-.47	-1.7	+1.18	+30.3
6.81	15.92	16.30	-.14	-.23	-1.4	+0.57	+15.4
1.70	10.00	10.37	-.18	-.36	-3.4	-8.62	+288.3
7.44	47.81	50.63	-.46	-1.75	-3.3	+3.93	+234.6
5.22	21.56	22.66	-.33	-1.03	-4.3		+168.9
.76	.66	.70	+.04	-.06	-7.8	-3.86	-40.1
5.23	41.88	42.56	-.72	-.34	-.8	+2.49	+64.3
8.39	17.53	17.75	-.05	+.12	+.7	+1.55	-7.3
3.17	48.33	49.82	-.05	-.13	-.3	+3.11	+36.0
0.57	18.51	19.07	-.26	-.75	-3.8	-2.85	+115.8
7.12	41.79	45.15	-.12	+3.61	+8.7	+2.23	+43.9
4.15	22.74	23.04	-.50	-.52	-2.2	+1.38	+42.3
0.15	9.80	9.80	-.35	-.35	-3.4	+0.60	-16.5
7.54	44.80	45.73	+.03	+.69	+1.5	+3.11	+34.3
3.64	39.93	40.73	-1.20	-.84	-2.0	+1.61	+38.1
7.03	15.25	15.79	-.25	-.29	-1.8	+1.03	+47.9
2.40	2.15	2.18	+.01	-.13	-5.6	-2.89	+10.2
3.70	21.81	22.57	-.12	-.17	-.7	-.025	+81.8
2.71	40.73	41.28	-.49	-.57	-1.4	-2.00	+4.4
1.10	37.03	38.30	-.05	-.64	-1.6	+2.24	+60.4
9.97	27.35	28.06	-.41	+.23	+.8	+0.91	+136.8
0.80	10.61	10.80	+.19	+.19	+1.8	-1.06	+41.8

Business Issues John Torinus

Mandates not always such a healthy choice

Democrats at all levels do love their mandates.

The mandate to purchase individual coverage was part of the reason health care insurance reform has crashed in Congress, but don't think it's going away. Forcing young healthy people into insurance pools is how the funds will be raised to cover people with pre-existing conditions.

The "healthies" would pay for the "unhealthies," which insurance companies would be mandated to include in their plans. The two mandates are inextricably linked.

Now, the Democrats in the Wisconsin Legislature are showing their zest for mandates as they push a sweeping energy agenda. To cut down on carbon emissions, they propose to mandate that 25% of the state's power come from alternative energy sources by 2025.

The top-down edict would carry an enormous price tag that would be paid by users of electricity. One estimate of the capital costs is \$16 billion over the next 15 years, which is about equal to the current investment in power generation in the state.

That number is derived from a price of \$2.5 million per megawatt of construction and a 25% renewable share that would equal 6,400 megawatts by 2025.

The irony is that the state is estimated to have 30% excess capacity at present. That has resulted from the slowdown in the economy and from new power plants coming on line in Oak Creek and Weston.

In the old days of the 1980s and 1990s, utilities projected about a 3% annual increase in energy use every year for as far as the eye could see. But the "new normal economy" sees no

such increases.

Indeed, We Energies reported that customer power use dropped 8% in 2009. That's a recessionary effect, but some consumption reduction may prove permanent.

Those stubborn facts do not deter the environmentalists in the Legislature. They simply recast their bill as a "green jobs bill." They and Gov. Jim Doyle assert that the 25% mandate will result in 15,000 green jobs.

It's hard to follow the logic or math of that calculation. You would think that the substitution of alternative energy for coal energy would be neutral vis-a-vis jobs, namely that every job gained on the green side would be lost on the black side.

Even more inexplicable is the absence of any visible economic model for the massive energy conversion. When a business is undertaking a major change in direction, such as a major acquisition, financial models are run to look at every variable, contingency and outcome. Modeling is tricky business because the assumptions are everything. But at least decision-makers in business have some guidance on the costs and returns on their plans.

Not so in the Legislature. Just slap on a mandate and damn the economic consequences. I won't get into the environmental argument about global warming and Wisconsin's wee role in global carbon emissions.

But to demand an economic model for what the 25% edict will mean for individual and business ratepayers seems irrefutably prudent. I've commented before that the smart guys who push these mandates must have taken rhetoric in place of math in college.

Numbers matter. We all

want environmental improvement, but the ways and means of getting there are all important. Like health care, we need sensible ways to pay for societal improvements.

The 23 business groups who oppose the global warming bill maintain that per capita energy costs will rise by more than \$1,000 per year by 2025.

The better approach to health care coverage and carbon reduction is collaborative. Government should work with energy companies and with consumers to devise new business models and technologies to cut costs as the transitions are made.

Sen. Ted Kanavas put it best. He has no problem with a goal of changing the mix of fuels in Wisconsin, but he added, "It has to happen naturally — not be forced."

The government at the state and national levels would be better off investing heavily in new energy sources, including safer nuclear, because carbon reduction will depend in the end on the development of new technologies.

That kind of investment, along with the right set of incentives, would make the shift away from coal more affordable. The intelligent decisions that underpin a marketplace would help make the shift less painful.

Does anyone really think that the broad-brush mandate approach won't be very expensive and very painful? Electric rates in this state shot up more than 50% in the last decade. We can't stand a lot more of that kind of inflation.

John Torinus is chairman of Serigraph Inc. of West Bend and a founder of BizStarts Milwaukee, a nonprofit organization dedicated to fostering entrepreneurship in southeastern Wisconsin. Contact him at torcolumn@serigraph.com.



New Wind Farms in the U.S. Do Not Bring Jobs

Millions Have Been Invested in Wind Farms, but That Hasn't Brought Jobs

By JONATHAN KARL

Feb. 9, 2010—

Despite all the talk of green jobs, the overwhelming majority of stimulus money spent on wind power has gone to foreign companies, according to a new report by the Investigative Reporting Workshop at the American University's School of Communication in Washington, D.C.

Nearly \$2 billion in money from the American Recovery and Reinvestment Act has been spent on wind power, funding the creation of enough new wind farms to power 2.4 million homes over the past year. But the study found that nearly 80 percent of that money has gone to foreign manufacturers of wind turbines.

So Where Are the Jobs?

"Most of the jobs are going overseas," said Russ Choma at the Investigative Reporting Workshop. He analyzed which foreign firms had accepted the most stimulus money. "According to our estimates, about 6,000 jobs have been created overseas, and maybe a couple hundred have been created in the U.S."

Even with the infusion of so much stimulus money, a recent report by American Wind Energy Association showed a drop in U.S. wind manufacturing jobs last year.

Sen. Chuck Schumer, D-N.Y., called the flow of money to foreign companies an outrage, because the stimulus, he said, was intended to create jobs inside the United States.

"This is one of those stories in Washington that when you tell people five miles outside the Beltway, or anywhere else in America, they cannot believe it," Schumer told ABC News, "It makes people lose faith in government, and it frankly infuriates me."

Matt Rogers, the senior adviser to the Secretary of Energy for the Recovery Act, denied there was a problem.

"The recovery act is creating jobs in the U.S. for American workers," said Rogers, "That is what the recovery act is about, that is what it is doing. Every dollar from the recovery act is going to create jobs for the American workers here in the U.S."

How Did This Happen?

Several of the large European turbine manufacturers had limited manufacturing facilities in the United States, but there was nothing in the stimulus plan that required that the turbines, or any other equipment needed for the wind farms, be made here, said Rogers. There are strict "Buy America" provisions in the

Recovery Act, but this Green Energy Stimulus initiative turned the existing tax credits into cash grants, bypassing the "Buy America" provision.

Iberdrola, one of the largest operators of renewable energy worldwide, is based in Spain and has received the most U.S. stimulus dollars -- \$577 million. It buys some of its turbines from another Spanish manufacturer, Gamesa, which has a U.S. connection. Gamesa has two facilities to manufacture turbine blades in Pennsylvania, but the company said the market forced it to temporarily lay off nearly 100 workers.

Eric Sheesley was one of those laid off from the Gamesa plant before Thanksgiving. "When we're employing other countries, we can't feed our kids at home. It gets hard you know." Sheesley had a glimmer of hope when a letter arrived this week telling him to report back to work next week.

One reason so much money is going overseas is that there is not much of a wind power industry in the United States -- only two major American manufacturers make wind turbines: General Electric Energy and Clipper Wind based in Carpinteria, Calif. Even those companies do a significant amount of their manufacturing overseas. General Electric told ABC News that GE's Renewable Energy business has 3,000 employees around the world, 1,350 here in the United States.

Schumer said the way to revitalize the domestic wind power industry and to create green jobs is to require that at least some of the turbine equipment to be made in the United States.

An American Farm With Chinese Jobs

Perhaps the most controversial wind project is one that has yet to receive stimulus money.

A Chinese company called A-power is helping to build a massive \$1.5 billion wind farm in West Texas. The consortium behind the project expects to get \$450 million in stimulus money.

Walt Hornaday, an American partner on the project, said it would create some American jobs. "Our estimation," he said, "is that we are going to have on the order of 300 construction jobs just within the fence of the project."

But that's in addition to 2,000 manufacturing jobs -- many of them in China.

Lauren Reynolds, a reporter at ABC's San Diego affiliate 10 News, paid a visit to the vacant office of A-power.

To read more about how wind energy companies in San Diego are forced to spend their federal stimulus dollars abroad, go to today's San Diego Tribune and the Watch Dog Institute's Web page.

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